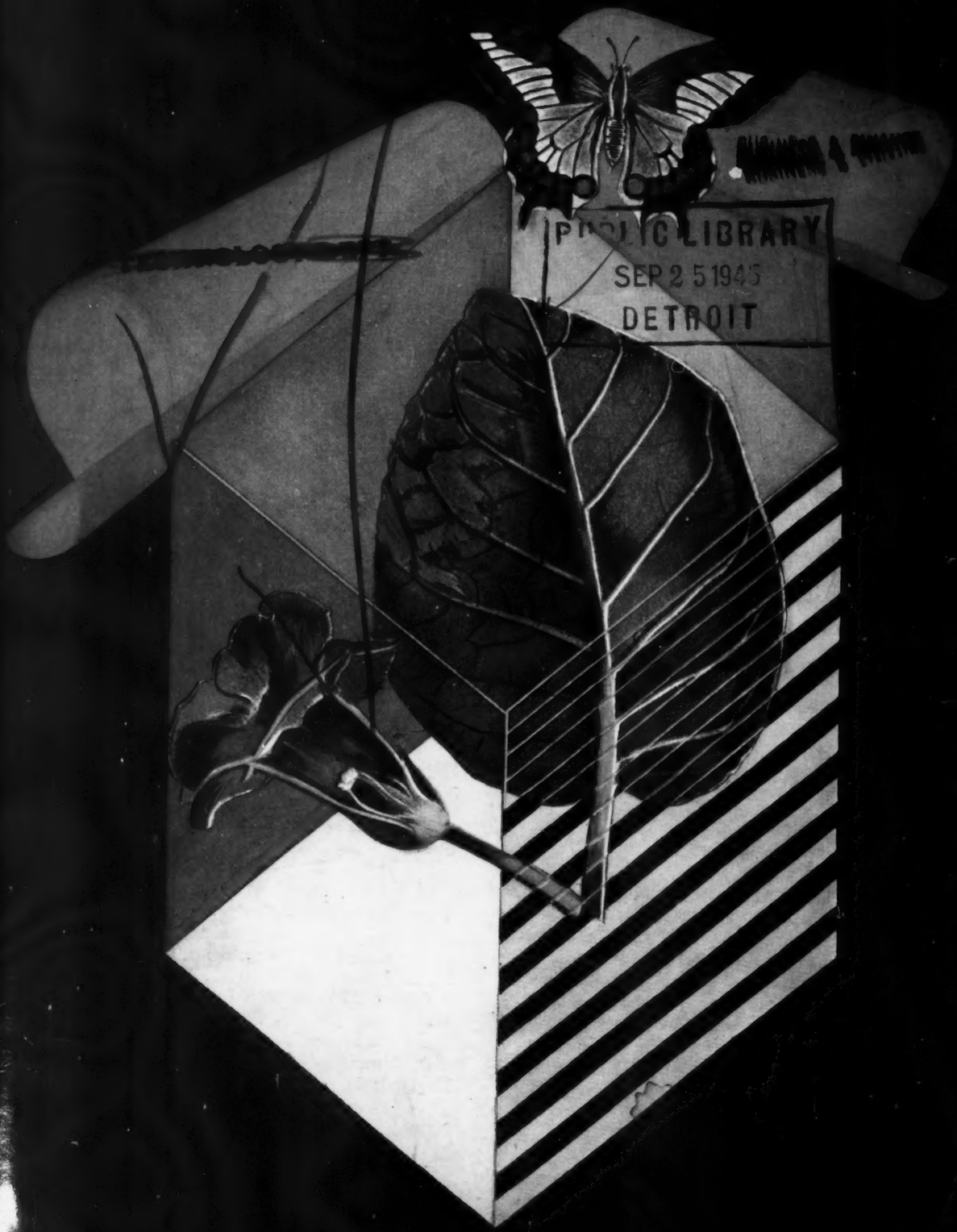
MODERN PACKAGING

September 1945



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FLEXIBLE IN USE

Rely on National . . . with its long practiced, specialized skill . . . to provide a bond of permanent flexibility.

Let's examine the flexible lifetime of a postwar coffee bag. Laminated of rolled multi-ply stock . . . fabricated into a flat bag . . . opened for filling . . . closed, sealed and nested tightly in shipping cases . . . handled by clerk and customer . . . reopened for home use . . . rolled down after each serving . . . then discarded only after it has successfully protected the flavor of its contents while withstanding every test of its flexibility.

Now what about rigid containers? Cover hinges must be flexible on cigar, cigarette, perfume, stationery boxes, etc. The glued paper or fabric hinge must . . . withstand repeated openings . . . carry the weight of the cover . . . resist cracking on opening or pulling away from the box surface — all, with the help of an adhesive film that is permanently flexible.

What is your flexibility problem? A book cover or ring binder? A roller shade or lounge slipper? A powder puff or disposable diaper? A leather belt or pocketbook?

Whatever the application, you can safely rely on National — with its expert knowledge of the mechanical and chemical requirements of every type of adhesion — to provide a bond of permanent flexibility. Submit your specific problem to National — NOW!

Offices: 270 Madison Avenue, New York 16; 3641 So. Washtenaw Avenue, Chicago 32; 735 Battery Street, San Francisco 11, and other principal cities. In Canada: Meredith, Simmons & Co., Ltd., Toronto and Montreal. In England: National Adhesives Ltd., Slough, Bucks.

National ADHESIVES

EVERY TYPE OF ADHESIVE FOR EVERY TYPE OF ADHESION

On the 20th Anniversary of our company magazine, Phoenix Flame, we wish to express sincere appreciation... to artist, photographer, engraver and printer whose craftsmanship contributed so much to its acceptance throughout the packaging industry . . . and to readers everywhere whose loyal support and friendly encouragement spurred us to do better than we thought possible.

PHOENIX METAL CAP CO. • CHICAGO 8 AND BROOKLYN 18

MODERN PACKAGING

VOLUME 19 SEPTEMBER 1945 NUMBER 1

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COVER—This month's design by Peter Piening symbolizes the accomplishments of protective packaging which make it possible to fly rare cut flowers to distant markets in dew-fresh condition.

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MODERN PACKAGING is regularly indexed in the *Industrial Arts Index.*

Member of Audit Bureau of Circulations

EXECUTIVE and EDITORIAL OFFICES: Chanin Bldg., 122 E. 42nd St., New York 17. **WASHINGTON OFFICE:** 625 Colorado Bldg., 14th & G Sts., D. C. 6

Published the 5th of each month by Breskin Publishing Company. Publication office: Twentieth and Northampton Sts., Easton, Pa. Subscription $5.00 per year in United States; Canadian, $5.50; foreign, $6.00. Two-year subscription: United States, $8.00; Canadian, $9.00; foreign, $10.00. All foreign subscriptions payable in United States currency or equivalent in foreign currency computed in current exchange. Price this issue, 50¢ per copy.

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Printed in U. S. A. Acceptance under the Act of June 5, 1934, at Easton, Pa. Authorized October 7, 1936.

HARD to Package?

NOT on a Redington!

Long cut macaroni products are *difficult to package.* A pound of spaghetti is unmanageable—it will slide into any shape. It must be confined during the entire packaging operation. *It cannot be pushed around* like a bottle or a box or a bar of soap.

But Redington devised a way . . . a way so successful, so low in cost . . . that today the *majority* of the largest selling brands of long cut macaroni are wrapped and cartoned on Redington Type 26 Machines at the rate of 80 a minute.

The operation is simple: A special mechanism cuts dry waxed paper from a roll and lines the pockets of the intake conveyer. Girls meanwhile weigh out and place the specified quantity of macaroni in these lined pockets . . . then the Redington automatically wraps it in the waxed paper sheet, neatly without fuss.

Cartoning is just as efficient on the same Redington. Cartons are fed . . . the wrapped macaroni is inserted . . . and the carton is sealed against drying out by *double*-sealing the end flaps. The machine itself is streamlined, precision-built for a long, trouble-free life.

Your peacetime packaging plans deserve the same efficient equipment. Check with Redington *now* before tomorrow becomes today.

F. B. REDINGTON CO. (Est. 1897) 110-112 So. Sangamon St., Chicago 7, Ill.

REDINGTON

PACKAGING MACHINES

FOR CARTONING • WRAPPING • SPECIAL PACKAGING

FIDEL-I-TONE*

HIGH FIDELITY COLOR REPRODUCTION

...adds PERSUASION to your package

BEST SELLERS ARE SELF SELLERS. Sales experience proves that the appearance of your package can go a long way toward making people want your product. Good design is important, of course. But it takes faithful reproduction to produce a package that's really *persuasive*.

FIDEL-I-TONE meets the growing need for better pictures on packages . . . particularly where modern color photography is used in the package design. Developed expressly for quality reproduction on any type of printing surface, FIDEL-I-TONE gives delicate and faithful results on paper and boxboard alike . . . coated or uncoated.

We would like you to see how faithfully FIDEL-I-TONE reproduces each subtle detail of the illustration, how brilliant and compelling the colors. Write us for actual samples of FIDEL-I-TONE reproductions. You will find them helpful in planning your postwar packages.

The Lord Baltimore Press

1500 Greenmount Ave., Baltimore 2, Md.

Sales Offices: 595 Madison Ave., New York 22, N.Y.—ELdorado 5-4180

Folding Boxes · Labels · Inserts

* Trade-mark

WATER WINGS FOR A FLYING LIFEBOAT

Sails and all other fabric parts of rescue craft are protected by light-weight coatings of GEON

WHEN one of the newly developed Higgins airborne lifeboats parachutes to the aid of downed fliers, a lot of GEON polyvinyl resin in the form of fabric coatings drops with it. Sails, sail covers, tarpaulins, water catchers—all are made from a GEON-coated fabric ("Duroduck", by Hudgins & Ratsey). Even the parachute packs and instrument cases are coated with this life-lengthening material.

That's because coatings of GEON offer such high resistance to normally destructive factors. For example, in the South Pacific area, an untreated fabric may be attacked by mildew and fall to pieces overnight. But mildew has no harmful effect on a coating of GEON. Nor does GEON suffer from the effects of sunlight, air, heat, cold, salt water, abrasion—all of which are present in this unusual service.

In other fields, GEON may be made into products that resist oils, acids, foods, creasing, and flame. GEON raw materials may become a transparent packaging material that can be heat-sealed—or scuffproof luggage that will wear indefinitely—or shoe soles and heels that will last as long as the uppers—or upholstery material that can be left outdoors because it resists the action of sun and rain. All products of GEON may be delicately or brilliantly colored. There will be uses for products made from GEON in every industry. For more information please write Department LL-9, B. F. Goodrich Chemical Company, Rose Bldg., Cleveland 15, Ohio.

Geon
Polyvinyl Materials

B. F. Goodrich Chemical Company

A DIVISION OF
THE B. F. GOODRICH COMPANY

STOP look buy

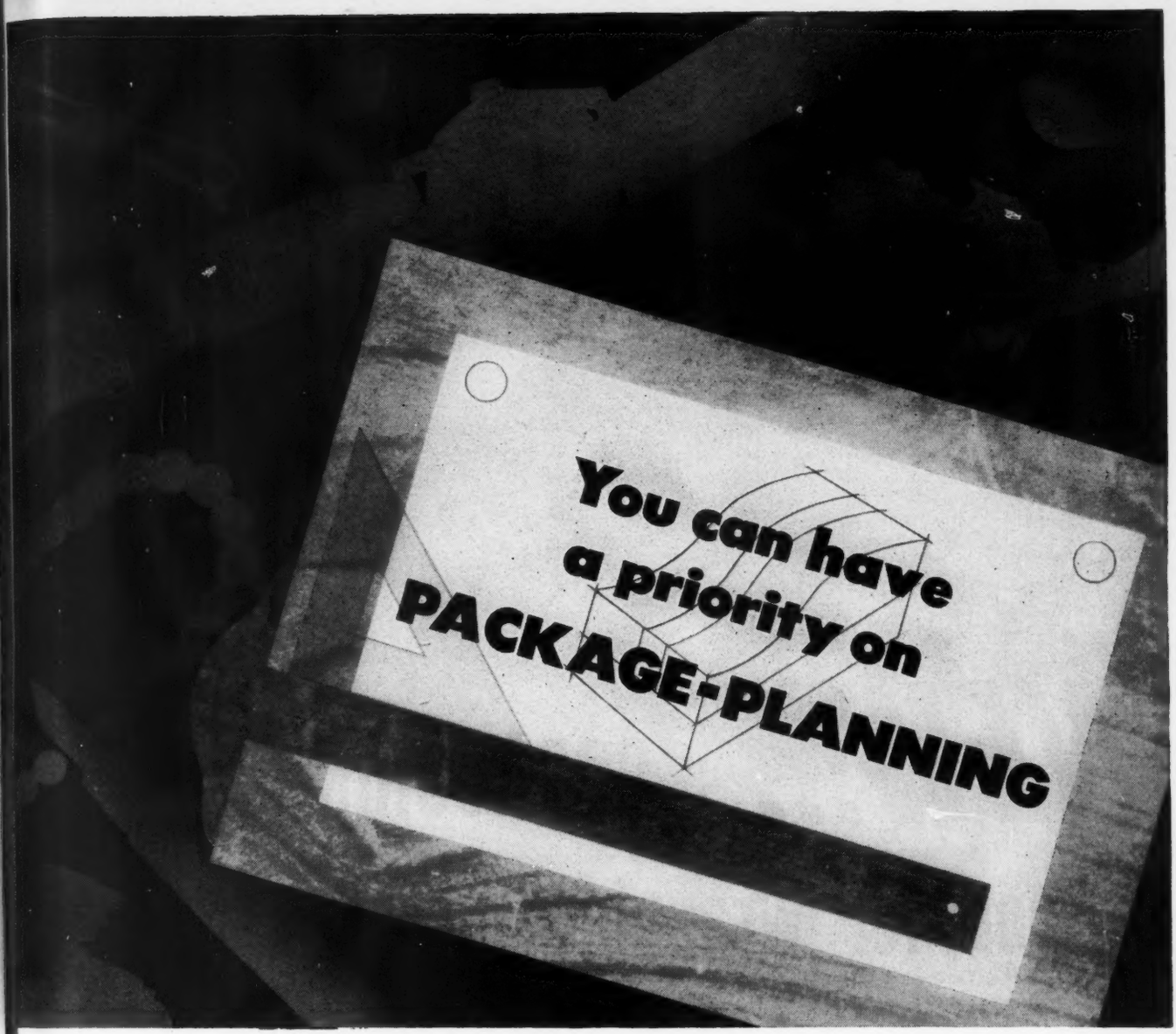
Your package must be the signal that directs consumer Traffic to your Product. Give it the color — to make them stop, the eye-appeal — to make them look, and the selling copy — to make them buy. Consult Milprint today — for a package that stops the consumer!

AWARDED TO MILPRINT INC.
WAR PRODUCTS DIVISION

MILPRINT Inc.
PACKAGING CONVERTERS • PRINTERS • LITHOGRAPHERS

Sales Offices at New York, Chicago, Boston, San Francisco, Philadelphia, Grand Rapids, Los Angeles, Atlanta, Indianapolis, Minneapolis, Cincinnati, Cleveland, Dallas, Pittsburgh, St. Louis, Kansas City

plants at
MILWAUKEE • PHILADELPHIA • LOS ANGELES • TUCSON



The reconversion period is here. Arrow, too, will be converting from war production to civilian production. Naturally we can't go immediately into full scale civilian production. However, we can give you priority in planning the boxes that will assure a triumphant reception for your peace-time products.

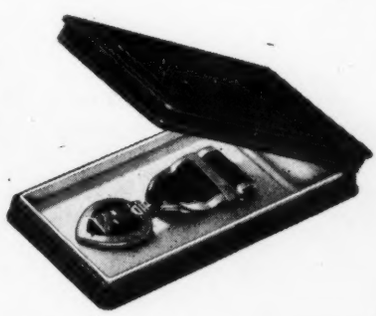
It has long been an Arrow policy to avoid package-platitudes and concentrate on package-pioneering. Provocative new designs—a wide range of materials*—arresting coverings! That's why Arrow boxes and displays take the lead in promoting sales.

For your boxes of tomorrow—consult Arrow today.

We're Not Through Yet—Buy Bonds!

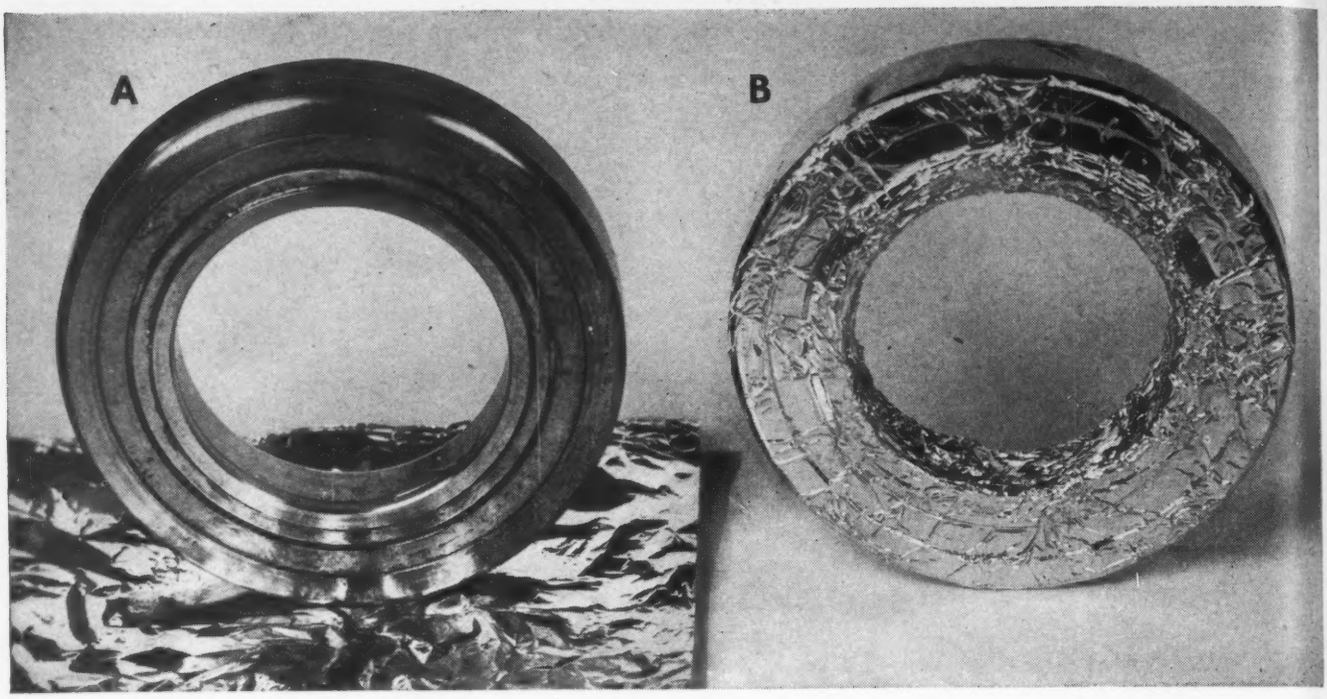
* metal, plastic, wood, or cardboard with coverings of leather, leatherette, fabric or paper.

Arrow is now in its fourth year of service in the production of boxes which hold the Purple Heart and many other medals for the heroes in our Armed Forces. And Arrow is proud that through these years, it has maintained consistent leadership in serving this need of our Army and Navy.

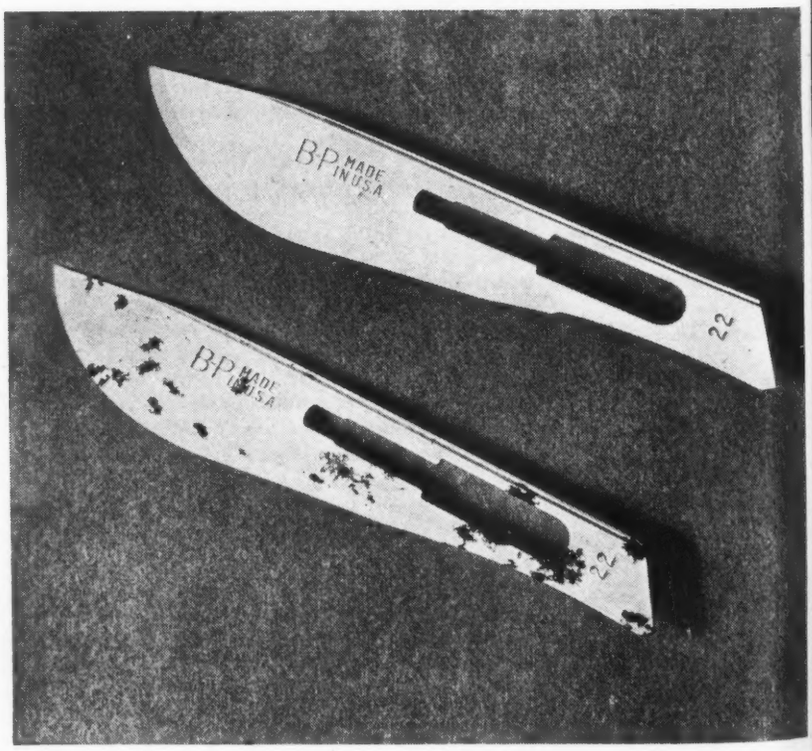


Arrow BOXES AND DISPLAYS

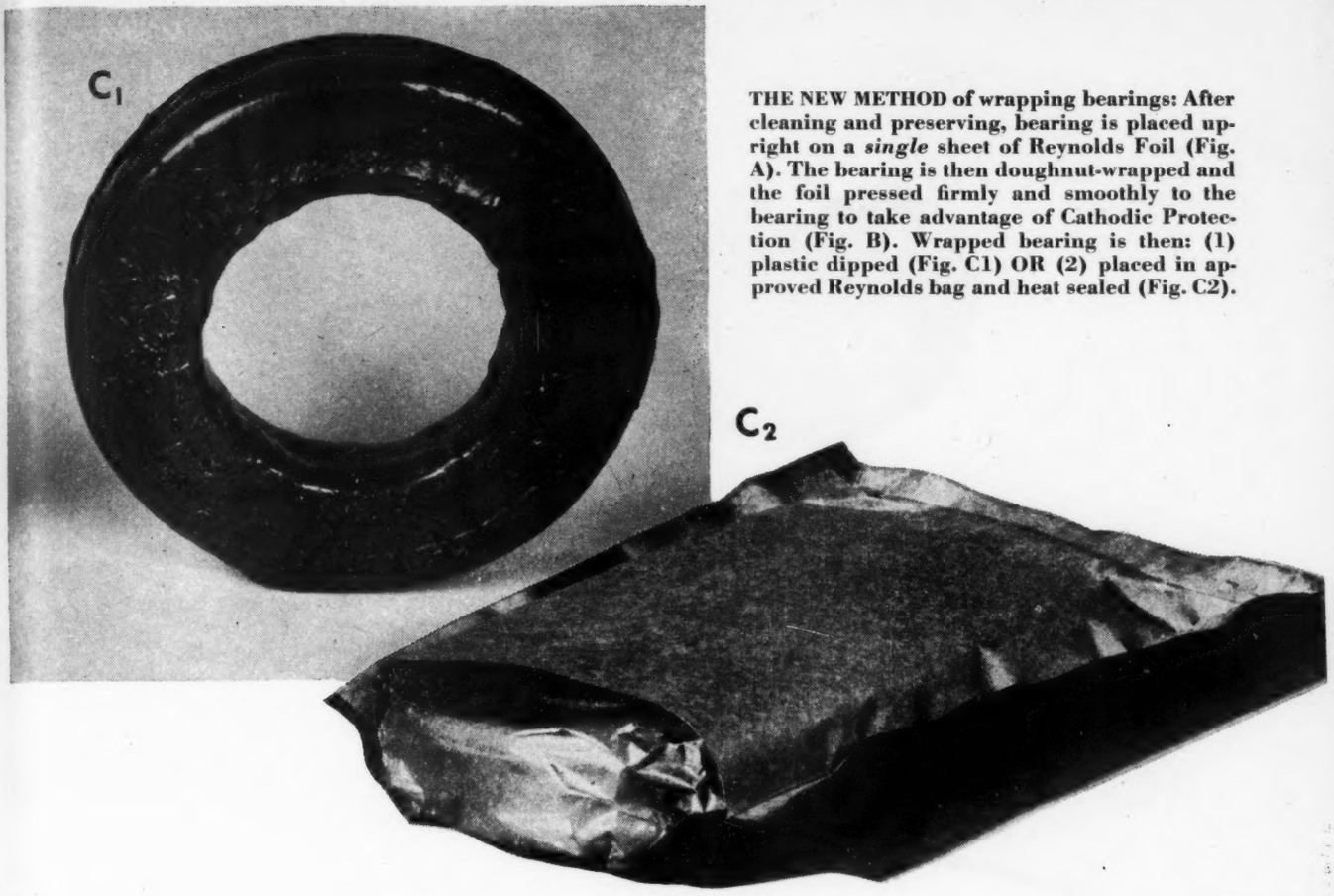
ARROW MANUFACTURING COMPANY, INC. • FIFTEENTH AND HUDSON STREETS • HOBOKEN, NEW JERSEY



NEW... a CORROSION-PROOF method for wrapping metal parts with



SURGICAL BLADES used in Army Medical Corps experiment. Blade above wrapped in foil—below in neutral paper. These are the results after 11 days at 122°F., 95% relative humidity. In both cases, blade was cleaned and preserved before wrapping.



THE NEW METHOD of wrapping bearings: After cleaning and preserving, bearing is placed upright on a *single* sheet of Reynolds Foil (Fig. A). The bearing is then doughnut-wrapped and the foil pressed firmly and smoothly to the bearing to take advantage of Cathodic Protection (Fig. B). Wrapped bearing is then: (1) plastic dipped (Fig. C1) OR (2) placed in approved Reynolds bag and heat sealed (Fig. C2).

REYNOLDS ALUMINUM FOIL

ALUMINUM FOIL, specially processed by the Reynolds Metals Company, offers three distinct advantages in packaging Metal Parts:

1. **Acts as a positive barrier against moisture-vapor transmission.**
2. **Develops a counter electro-motive force and provides cathodic protection against contact corrosion.**
3. **Gives extra economies in material and man hours.**

It all came out some months ago, when the Army Medical Corps, in co-operation with Reynolds, completed tests in wrapping surgical instruments in Aluminum Foil. The results were so successful that the Medical Corps specified Aluminum Foil for this new and important method of packaging, which combines a moisture-barrier with "Cathodic Protection." (See photo shown on this page.)

Since then, further experiments with other branches of the service, and with prominent manufacturers, have revealed some revolutionary developments in parts packaging. This new method has countless applications in all branches of the Armed Services and after the war will find a prominent place in the packaging of many civilian products.

If you would like a reprint of a recent authoritative article on Cathodic Protection, and complete data on the new uses of Aluminum Foil in packaging metal parts, write Reynolds Metals Company, Richmond 19, Virginia.

REYNOLDS METALS

REYNOLDS METALS COMPANY

leads the way to better living

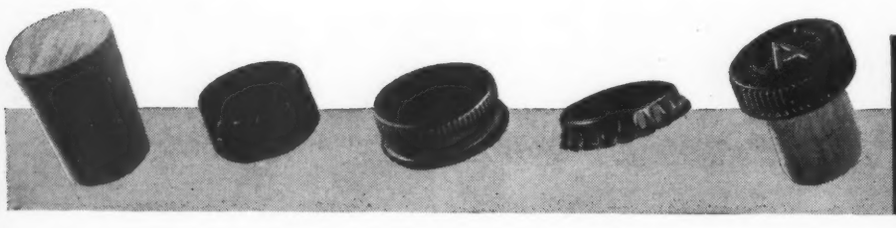
FIRST impressions are important, particularly if a customer is using your product for the first time. At the critical moment, when the customer uncorks your package just before he uses your product, will your cork please your customer?

Armstrong's Corks draw from the bottle easily, in one piece, without crumbling or breaking. They establish an impression of quality and confidence in the customer's mind at the psychological moment. They seal and reseal your package with complete satisfaction.

By using Armstrong's Corks you can avoid irritating the customer, prevent doubts about quality . . . doubts that may unfavorably affect his judgment of your product.

It will pay you to order your corks from Armstrong. You can be sure of getting only the best in top-quality corks, skillfully cut and uniformly shaped from the finest imported corkwood, accurately and honestly graded.

For information about any of Armstrong's Corks—straight, tapered, shell, flange, or embossed-top—get in touch with your nearest Armstrong representative. Or, write to the Armstrong Cork Co., Glass and Closure Div., 5909 Prince St., Lancaster, Pa.



ARMSTRONG'S
CORKS and CAPS

What is your question on PACKAGING?

Some packaging questions answer themselves. Others—and these are generally the ones with big money hanging on the right answer—require specialized counsel.

Here are some typical "$64 questions":

What can be done to protect my product against moisture? . . . How can infestation be prevented? . . . What improvement can be made in the package to spotlight my product's sales appeal? . . . Can I obtain effective low-cost protection against sifting of granular or powdery products?

Through our PLANNED PACKAGING service with the complete facilities of our plant for manufacturing, designing, testing, and converting we are in a special position to provide answers for an unusually wide range of $64 questions in the packaging field.

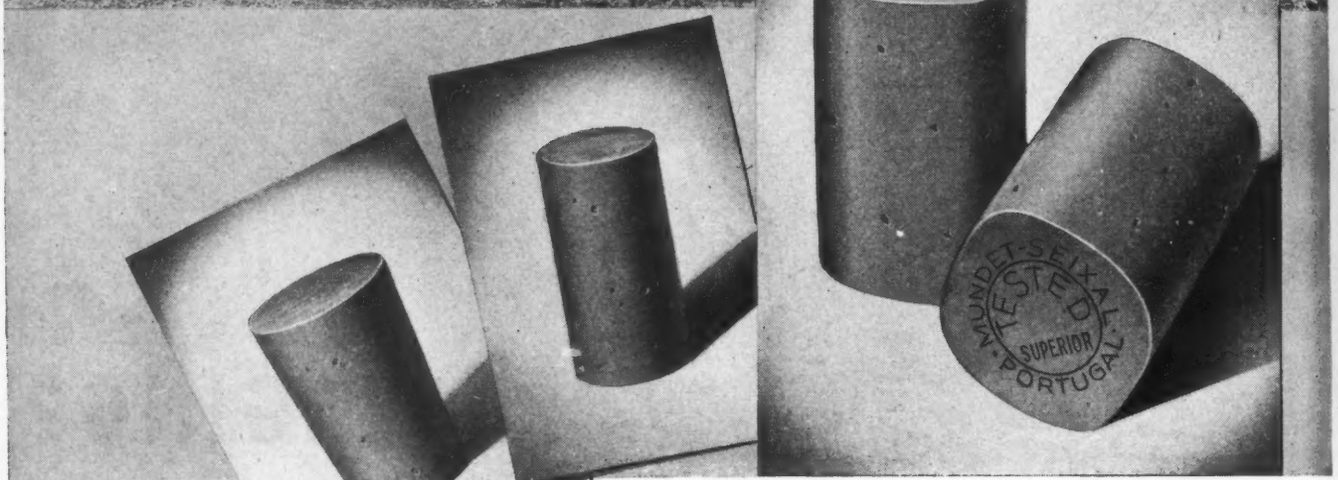
THE OHIO BOXBOARD CO.

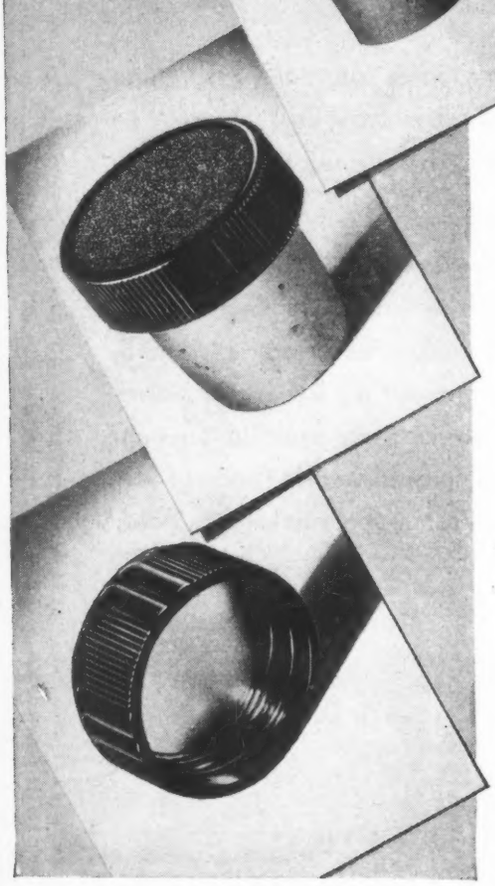
RITTMAN, OHIO

Manufacturers of paper board, folding boxes, corrugated and fiber shipping containers, and converted specialties

SALES OFFICES: RITTMAN • AKRON • CLEVELAND • CINCINNATI • PITTSBURGH • NEW YORK • CHICAGO

Capacity 500 tons daily





MILLIONS OF AIR CELLS TO SEAL ONE BOTTLE...

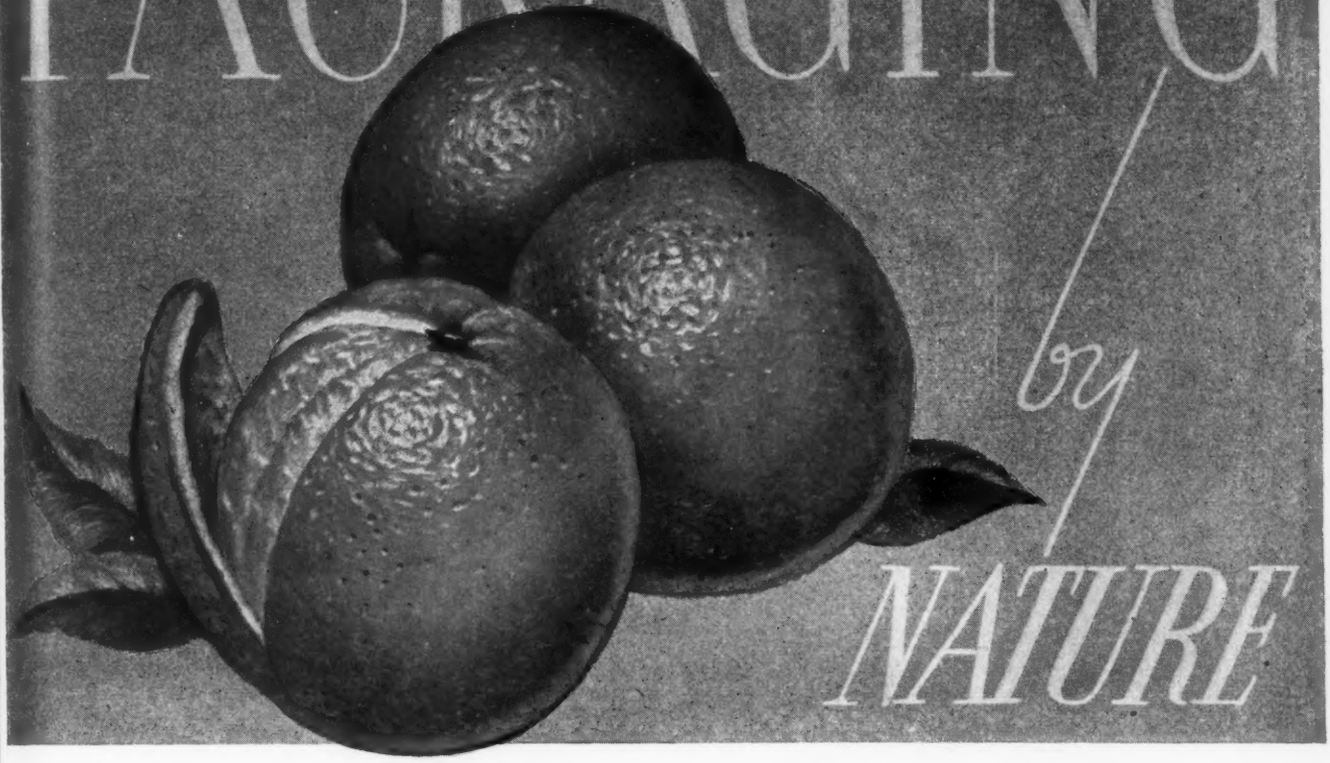
There are actually millions of microscopic cells in *one* Mundet Cork Closure. These tiny walled chambers, each holding entrapped air, form the remarkable structure that makes Cork so resilient and liquid-tight. It's the reason why Cork of the proper grade and quality, expertly machined and sized, gives complete and lasting protection to bottled products.

Cork—*fine sealing* with Cork—has been Mundet's specialty for 80 years. From harvesting of the raw Cork in warm Mediterranean lands, to manufacture and final inspection of the Cork Closures in the Mundet plant, every precaution is taken to give your products supreme sealing protection. Mundet Cork Closures are clean, properly graded, and precision-sized. They are made in many types for specific requirements. For other information, write to Mundet Cork Corporation, Closure Division, 65 South Eleventh Street, Brooklyn 11, N. Y.

MUNDET
— CLOSURES —

AN AMERICAN INSTITUTION WORKING WITH AND FOR AMERICA

PACKAGING by NATURE



When Mother Nature "packages" her products, she isn't trying to impress mankind. The serious business of *protection* is the underlying reason for peel, husk and shell. Warding off the ravages of weather, insects, birds and other natural enemies is a full-time job during growing time. But with the harvest, a new span of life in many transmuted forms is ahead for Nature's bounty. The stored-up nutrition and goodness so carefully matured now needs *man-made* protection pending consumption. Here's where protective packaging papers become essential. War-born shortages "softened up" a lot of buyers but with return of abundance critical purchasing will reappear. Quality, appropriately presented and preserved, will sway the pendulum of sales. If your product is to survive the crush of competition, be sure it's safeguarded with *protective* packaging to withstand climatic changes, endure shelf-life and resist store-handling.

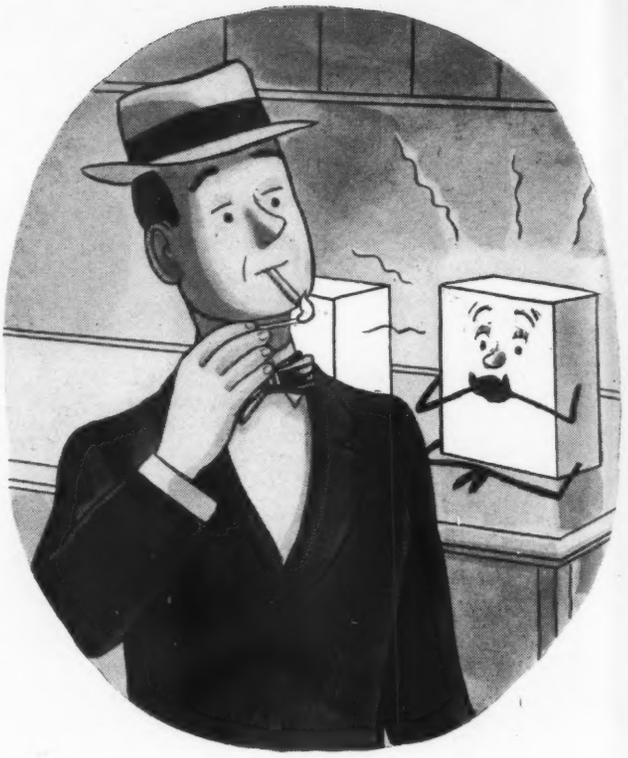
Good products in good packages will have an extra sales advantage because in the postwar market shoppers will again be choosy. At Rhinelander nearly fifty years of packaging paper experience is at your disposal in solving difficult wrapping problems. Our standard grades may be adaptable to your needs, or we can create papers to suit the various uses of individual customers.

FROM THE BEST THAT'S MADE
RHINELANDER
PROTECTIVE PACKAGING
Papers
TO THE CHEAPEST THAT'S GOOD

Moisture/Vapor-Proof Coated Glassines
Wet Strength Glassines
Wet Strength Greaseproof
Heat Sealing Coated Glassines
Lard and Shortening Liners
Packing Industry Wrappings
Genuine Greaseproof
Specialty Bag Papers
Confectionery Papers
Cereal Wrapping Papers
Coffee Bag Papers
Cracker Box Liners
Laminated Greaseproof Papers
Wax Laminated Glassine
Greaseproof Innerwraps
Opaque Label & Bag Glassine

RHINELANDER PAPER COMPANY • MILLS AT RHINELANDER, WISCONSIN, U.S.A.

"……!"



"……!"

"HEY, LADY, LOOK AT ME!"

"RIGHT HERE, MISTER!"

"SILENT SALESMEN" will take a back seat in tomorrow's stores

YOU'LL NEED A PACKAGE THAT *TALKS*. AND THERE'S NOTHING LIKE *COATED* LITHWITE TO MAKE IT SPEAK UP AND SELL

ONE THING CERTAIN about tomorrow's stores . . . there's going to be *more* self-service, not less. *More* mass displays, not fewer. And that means a greater need than ever for packages that can outtalk competition at the point of sale.

Coated Lithwite Cartons speak out on the shelf

Many a leading manufacturer has already discovered that cartons made of *Coated* Lithwite, the revolutionary, machine-coated paperboard, have a crispness and brilliance that get attention, make them speak out above competition. *Coated* Lithwite holds up colors with eye-catching brilliance, enables you to present a persuasive, "speaking likeness" of your product. And its velvet-smooth surface gives your package a look and feel that says there's *quality* inside.

Include Coated Lithwite Cartons in your postwar plans

As you plan your postwar packages, keep *Coated* Lithwite cartons in mind. Clip the memo. File it where you can reach for it fast. The day is coming when Gardner-Richardson can again accept orders for cartons made of this revolutionary machine-coated paperboard that turns "*Silent Salesmen*" into *talking* packages. We hope it's soon.

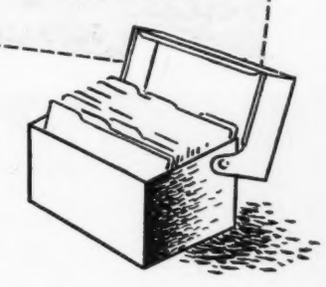
CLIP THIS!

File this Coated Lithwite memo for reference when this quality paperboard is again available

1. Made by a revolutionary process. *Coated* Lithwite is the brighter, whiter paperboard that is formed, made and coated in one high-speed operation. Proved and improved for six years.

2. Means more eye-appealing cartons. *Coated* Lithwite's smooth, velvety, chalk-free surface forms a better base for printing inks and plates—reproduces even the smallest type cleanly, crisply. Brings colors up brilliantly—gives halftones a sharp realism.

3. Fewer jammers and leakers. *Coated* Lithwite scores accurately without flaking or shattering. Takes a positive, tight seal.



The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA . CLEVELAND . CHICAGO . ST. LOUIS . NEW YORK . BOSTON . PITTSBURGH . DETROIT

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SELECT YOUR TAPES AND SPECIALTIES FROM OUR COMPLETE LINE:

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- HEAVY GUMMED KRAFT • GUMMED CAMBRICS
- "INERWOV" REINFORCED CORRUGATORS TAPE
- "SOLSEAL" WATERPROOF TAPE • COMBINING
- VENEER GUMMED TAPE • GUMMED HOLLANDS
- CREASED GUMMED STAY

ASPHALT LAMINATED REINFORCED WATERPROOF WRAPPING PAPER

ATLANTIC GUMMED PAPER CORP.

MANUFACTURERS OF *"On-to-Sta"* GUMMED PAPERS

PLANT & MAIN OFFICE: ONE MAIN ST., BROOKLYN 1, N. Y.

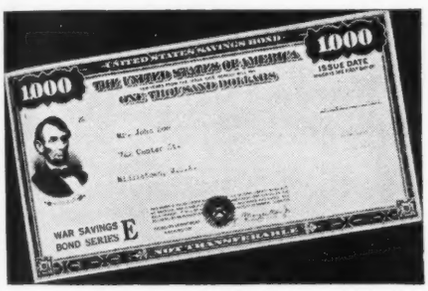
BRANCH OFFICES: PHILADELPHIA · PITTSBURGH · CHICAGO · BUFFALO · ATLANTA · LOS ANGELES · HAVANA

KEEPING IN TOUCH

PREPARED BY INTERNATIONAL PRINTING INK DIVISION OF INTERCHEMICAL CORPORATION • SEPTEMBER 1945

SPECIAL TENTH ANNIVERSARY ESSAY PRINTING CONTEST ANNOUNCED BY IPI

Event to be Marked by Extra $1,000 Grand Prize and Other Features



A $1,000 War Bond; special award for the winner of the Grand Prize.

Plans for its Tenth Annual Essay Contest, the theme of which is "Printing and World Peace", were made known today by International Printing Ink in cooperation with the National Graphic Arts Education Association. As in the past nine years, the Contest is strictly educational in character and is open to qualified students in the United States and Canada.

G. A. E. Also Celebrates

Also commemorating a decade of activity is the National Graphic Arts Education Association which was organized 10 years ago to "hold printing and education together." That it has clung to this ideal through the years and has done its job well is attested to in its Annual Report just recently issued.

$2,200 in War Bonds to be Given as Prizes

To commemorate this decade of Contests a Special Jury will award a grand prize of a $1,000 War Bond to the Printed Essay which has the highest score; according to its thoughtfulness of content, quality of writing, skill and originality of design, accurate composition and proof reading, good press work.

In addition, any essay winning one of the national prizes is eligible for one of five newly added prizes for printed essays, ranging from $100 first prize to $10 for fifth prize.

There will also be the regular Essay Contest prizes of a $500 War Bond first prize, $200 War Bond second prize, $100 War Bond third prize, $50 War Bond fourth prize, $25 War Bond fifth prize, and 25 prizes of $5.00 each, in War Stamps as awarded in previous contests.

Reward for the essay most attractively printed in color will be a handsome Silver Cup.

Silver Cup for Best Color Work

To encourage students to gain a wider knowledge of color and color composition, an engraved silver cup will be awarded the school submitting the essay most attractively printed in color, regardless of editorial content, thus affording an excellent opportunity for the schools' art departments to collaborate with their printing departments.

As a permanent token of their prowess, each of the five national winners will receive gold lapel pins, while the other 25 national winners will receive silver pins. Bronze pins will be presented to the local school winners. To the teachers in all cooperating schools, a certificate of honor especially designed by an outstanding graphic arts designer, will be presented.

Marking his 10th year as chairman of the Contest will be Harry L. Gage, vice-president of the Mergenthaler Linotype Company, who will be assisted by a jury of men prominent in business, the professions and the Graphic Arts.

Who May Enter

Entrants must be registered students in the freshman, sophomore, junior or senior class of an accredited high school, trade school or preparatory school in the United States or Canada. Junior high school students in the ninth grade may enter. Entrants must not be more than 21 years old on December 1, 1945, and students below the ninth grade are not eligible.

Schools that have not competed in previous contests are urged to send for further details to: International Printing Ink, Empire State Building, New York 1, N. Y. Those schools that qualify will receive announcements shortly.

BACK A HOME FRONT CAMPAIGN IN EVERY PIECE OF PRINTING
For source material, write GAVC, 17 E. 42d Street, New York

This laugh's on you—and worth it!

SOMEWHERE in the South Pacific, American boys are getting a laugh. A much-needed laugh that helps their morale. A laugh your money helps to buy—when you give to your Community War Fund.

For part of every dollar you give goes to the U.S.O. and helps send the U.S.O. camp shows overseas. And, with the millions of men now idle in occupied territories, the need to keep up their morale is greater than ever. That's why the army has asked the U.S.O. to quadruple its activities. And why your money is needed to help bring to some lonely G.I. a touch of home—the familiar face of Joe E. Brown—the friendly voice of Frances Langford—the dancing feet of Fred Astaire.

Another part of your money is spent right here at home, to help servicemen's families keep living decently, united in happiness and health. Still another part helps cheer our merchant seamen in distant ports of the world. And it helps relieve hunger and sickness and suffering among our fighting allies.

This is a great united cause. And because the needs are so many and so great, give generously—give more than you gave last year. Make your gift as big as your heart.

Give generously to

Your Community War Fund

Representing the National War Fund

Merchandising Tips—No. 4

How to get your product into people's hands

AN old, time-tested rule in personal selling says "put your product in the prospect's hands; let her sell herself!" You can use this same, effective psychology, too.

All you need do is pack your product in an attractive Anchorglass package! The interest aroused by the sight of the product makes glass a "natural" for today's self-serve merchandising. When the shopper sees your package, she sees your product, too. Curiosity is whetted—*it's only a step to a closer look—in her hands!*

There's a right combination of light, strong Anchorglass container and dependable Anchor Cap to sell your product fast and make its use a pleasure. Let us show you how you can be ahead of the field with a modern, self-selling Anchorglass package.

Hear how Anchor Hocking is educating millions of your customers and retailers every week to the advantages of modern glass packaging—Tune in "Hobby Lobby" every Thursday Evening, entire Coast-to-Coast Network, CBS.

Anchor
CONTAINERS and CAPS

PRODUCTS OF
ANCHOR HOCKING GLASS CORPORATION
LANCASTER, OHIO

*Sanitape-Sealtite
Contributions to Packaging
FROM AMONG A THOUSAND AND ONE UNIQUE PACKAGES
ADMINISTRATION AND DOSAGE
PHYSICIAN'S SAMPLE - NOT FOR SALE

Whether It Be a Large Wafer or Small Tablet, Sanitape-Sealtite is the indicated packaging. For it gives a clean, sparkling ethical appearance—unquestionably creates an atmosphere of worth and quality—and in the case of physicians' samples, provides a complete presentation which includes in the one package full description, sales message and instructions for use.

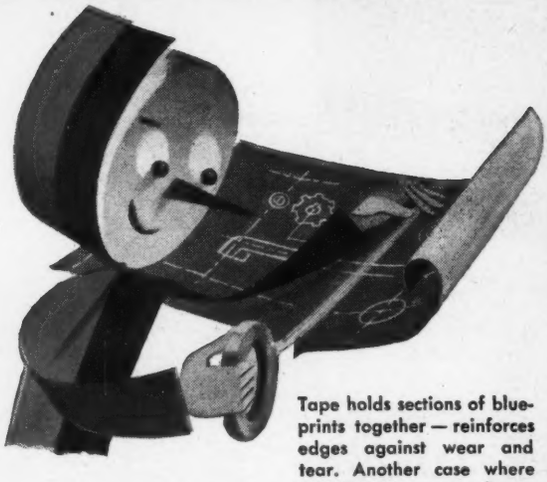
Yet Sanitape-Sealtite Packaging is economical—for it is light in weight, and handling detail is reduced to the minimum.

The competitive advantage of the product which is packaged by Sanitape-Sealtite deserves the careful consideration of those who see clearly the situation ahead. We shall be glad to give you complete details.

A UNIQUE PHARMACEUTICAL PACKAGING SERVICE

IVERS-LEE COMPANY
NEWARK, NEW JERSEY

*Sanitape-Sealtite is a unique method for packaging pills, tablets, capsules, creams and powders, by which each unit or unit dose is sealed in its own air-tight compartment—assuring convenience, protection and maintained efficacy.



Tape holds sections of blueprints together — reinforces edges against wear and tear. Another case where FILMONIZE saves man-hours.

Tape keeps safety goggles from becoming scarred and pitted. Use transparent FILMONIZE—it's easy to put on—easy to remove.

Tape covers the shop foreman's blueprint completely —protects it against grease and grime. Do it with transparent FILMONIZE.

Tape reseals opened cans— prevents evaporation—deterioration. FILMONIZE — in colors — also helps identify the contents of the cans.

Tape protects

SAVES MATERIALS, EQUIPMENT

• Are you using tape imaginatively? Have you thought of the hundreds of ways FILMONIZE can save time, materials, money in your plant? One of our Tape Engineers will be glad to counsel with you on this vital subject—and we'll send him any time you say.

• Meantime, remember FILMONIZE is the tape that *stands up*—that doesn't "curl back" —doesn't tangle. Production men say it handles faster—is more economical.

• A phone call to your distributor will bring the whole FILMONIZE line—of Transparent Tapes, Colored and Multi-Colored Tapes, Printed Tapes, Riveting Tapes, Identifying Tapes, Splicing Tapes, Acetate Fibre Tapes, Metal Tapes, Specialty Tapes, Packaging Tapes. In all widths from ½" to 18".

Filmonize

TRADE-MARK REG.

SELF-SEALING TAPES

INTERNATIONAL PLASTIC CORPORATION

Morristown New Jersey

A NEW PACKAGING DIVISION BORN OF U. S. E. WAR PACKAGING EXPERIENCE

With Field Men who *know* Packaging

The field representative of U.S.E.'s new Kellogg Container Division is worthy of the title "Packaging Specialist" which appears on his card.

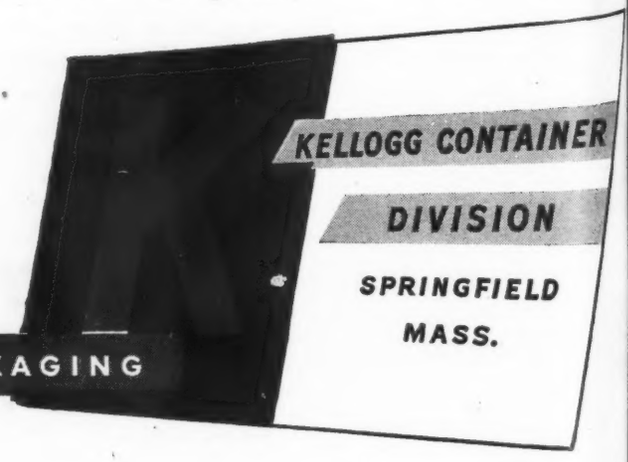
He is a man who knows packaging from beginning to end and is qualified to sit down with you and help to solve your container problems.

Back of him, of course, are the full resources and engineering knowledge of this newest division in the U. S. E. family.

Through him, you can secure the full benefits of war-born experience in water-moisture-vapor-proof materials as used in heat-sealable containers, bags, boxes and envelopes, in transparent and translucent materials and plastics. P-71

UNITED STATES ENVELOPE COMPANY

14 Divisions from Coast to Coast



U·S·E PROTECTIVE PACKAGING

Inertia—the tendency of anything to stay put

• Funny thing about inertia:

It can creep up on you from one angle while you're busy with another aspect of a problem.

For instance: You have been improving your product during the years. Wartime research and new developments have assured your product's future progress. No inertia here, all right, BUT—

Don't overlook your package

What about your container? Are you certain that it is a help to your product? Has it stayed put while you were busy improving your product?

Test the effectiveness of your package with these three questions: Is it economical? Is it efficient? Is it attractive enough to make the consumer point it out with a decisive finger?

Our job at Canco

We're here to help you answer these questions with a big "Yes!"

Our specific job is to devise packages attractive enough to accomplish these three requirements and accomplish them *well*. We are qualified to do this because of years of research and service.

Why not get the latest information? So that we may lend a hand, extend one . . . by asking our representative or writing us direct.

CANCO

AMERICAN CAN COMPANY

230 Park Ave., New York 17, N. Y.

WORLD'S LARGEST MANUFACTURERS OF FIBRE AND METAL CONTAINERS

TAILORED

● Containers, like clothing, require tailoring to attain best results. Correct materials, proper bracing, crush resistance, balance, easy handling, and advertising appeal are the results of tailoring containers.

Inland Package Engineers—with long experience in dealing with a great variety of products—are at your service. They are ready to aid in the designing of tailored containers.

The new peacetime products you are planning should be given special attention. Consideration of the containers now may avoid costly delays later.

INLAND CONTAINER CORPORATION

INLAND

CORRUGATED FIBRE BOXES

INDIANAPOLIS, IND. • MIDDLETOWN, OHIO • EVANSVILLE, IND. • MILWAUKEE, WIS. • DETROIT, MICH.

transparent wraps THAT WON'T FOG OR WILT

help promote a fast-growing merchandising idea

Ready-to-cook-or-serve fruits, vegetables, salad greens are irresistible to the shopper when packaged in Lumarith. For Lumarith is the plastic film that will not wilt or fog *under refrigeration*, even when used to package wet, washed greens.

The producers of Lumarith film offer you up-to-the-minute packaging and merchandising information, and will be glad to participate in your experimental program. Celanese Plastics Corporation, *a division of Celanese Corporation of America*, 180 Madison Avenue, New York 16, N. Y.

*Reg. U. S. Pat. Off.

LUMARITH*

A Celanese Plastic*

Jinx Falkenburg

Ruth Ownbey

The Beauties and the Beer...

with no apologies to fairy tale authors, Horatio Alger, Hollywood or even True Story, of which this is one.

Remember the drop of water that kept dropping? The snowball going downhill? The man who lifted a calf every day until . . . Well, one day in 1939 one of our vice presidents had a Large Idea. (*They have them almost every day.*) He told it to another vice president who said "Huh huh" and kept right on signing his mail . . . Boy, does genius take a beating before it gets a break!

The idea: pick a professional model, call her Miss Rheingold, use her picture on all the Rheingold displays of the season.

The Rheingold people kind of liked the idea, and they picked Jinx Falkenburg. Later they really *liked* the idea, wrapped all their advertising around the Falkenburg or vice versa. The *tres jolie* Jinx beamed at you from billboards, magazines, car cards, newspapers. Rheingold did all right. So did Miss F., afterwards tapped by Hollywood . . . Miss Rheingold became an institution. And growth of idea into institution is highlighted herewith:

1940—Rheingold let its dealers choose, from a brochure of Paul Hesse portraits in full color of twenty-five leading models. Beauty contests were held in bier stubes, debates occured in delicatessens and grocers. A prominent boys' school in Princeton, N.J., picked a Rheingold entry as Prom Queen. By ballot Miss Ruth Ownbey became Miss Rheingold 1941.

1941—Six models were selected, each viewed in Rheingold advertising for public vote. Miss Nancy Drake won by a nose and a few other features.

1942—The public, invited to submit candidates, sent in loads of best girl snaps and professional soft focus efforts, which were sifted down to four candidates by a group of artists and pictured in Rheingold advertising. Elected—Miss Sonia Gover.

1943—Six selected candidates, shown in Rheingold advertising, drew 656,327 votes (56,000 disqualified—demands for dates and phone numbers!) Score 178,489 for Miss Jane House.

1944—Six selected entries publicized. Special contest held for service men. With 739,591 ballots cast (40,000 disqualified—same reasons), 235,739 votes elected Miss Pat Boyd.

Few advertising ideas have lasted so long, attracted so much interest. And—oh yes, we almost forgot—it has sold beer . . . Rheingold's sales increase, in volume and in percentage, in 1942 and 1943, was more than double that of any other brewer in New York State!—War-time rationing of

Nancy Drake

Sonia Gover

materials made it impossible to maintain quality and increase volume, but when restrictions are lifted again—oh boy!!!

DID we say that Miss Rheingold was our idea? . . . Well, we don't claim all the credit. Perfect strangers tell us the beer is good. Rheingold drivers never let cases or barrels bump on the sidewalk; drive slowly to save tires. Salesmen are courteous even when they can't fill orders. An advertising agency by the name of Young & Rubicam isn't exactly disinterested . . . But, it was our idea.

Some of our competitors consider this Rheingold project is just a hard way to get an order. Others say our business is all beer and skittles—when, as a matter of fact, there isn't a skittle account in the house, and we would be glad to hear from a good skittle manufacturer, if any.

GOOD displays sell goods. Better displays based on a good idea usually sell more goods. Good ideas executed in better lithography usually cost little more than just lithography—but pay a far better profit.

While we have more display ideas these days than we have cardboard, we like to hear from advertisers who can use good ideas as well as better displays! Give us a call and we'll come over.

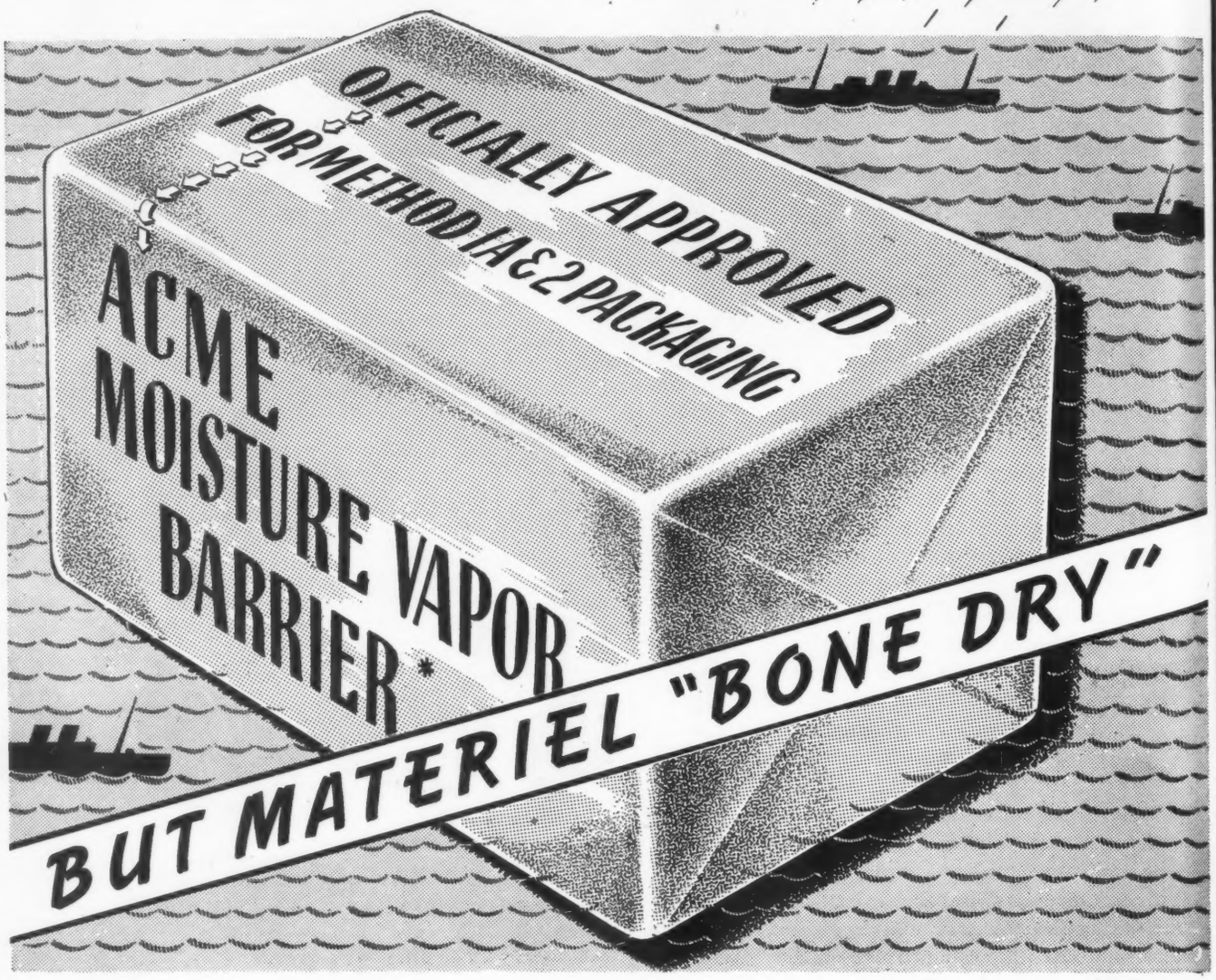
Jane House

Pat Boyd

Einson-Freeman Co., INC. • *Live & Learn Lithographers*

STARR & BORDEN AVENUES, LONG ISLAND CITY 1, NEW YORK

WATER, MOISTURE DAMPNESS *everywhere*



*Valley 2A

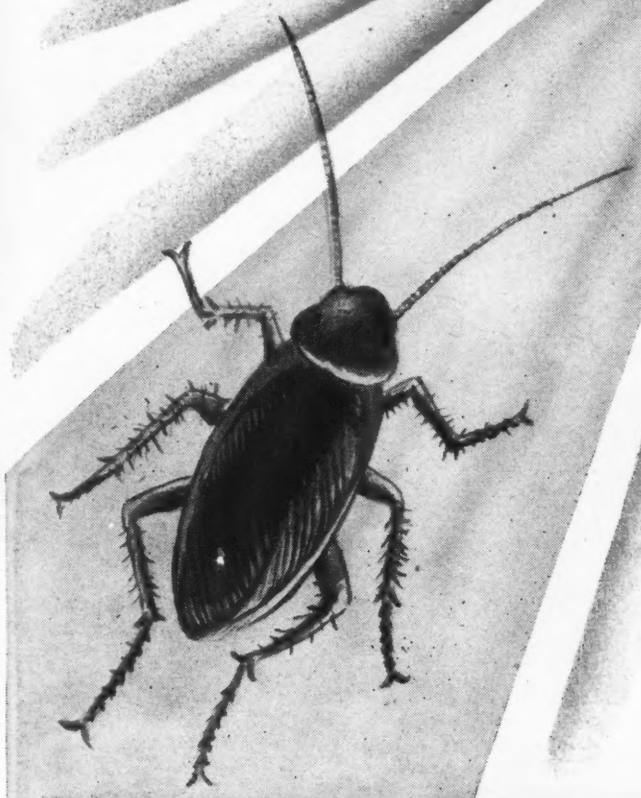
Priorities of course are required for present use of this thoroughly proven, laminated foil cloth. After it has concluded its distinguished war service, perhaps you will have a job for the most efficient moisture vapor packaging ever devised.

Our technical staff is ready now to show how this improved material fits your needs. We will not obligate you.

ACME BACKING CORP.
Meadow & Bogart Streets, Brooklyn 6, N. Y.

FOR EFFICIENCY IN DUSTING!

This paper can is being successfully used commercially as a two in one sales package and sprayer for insecticides and many other non-abrasive powders.*



For 25 years R. C. Can has pioneered in the development of paper cans for all purposes. Now our productive capacity cannot handle the new containers but our drawing boards are available to all firms interested in the use of paper cans in their post war plans.

R.C. CAN COMPANY

Manufacturers of fibre cans, tubes, spools and cores
Head Office: St. Louis, Mo.
Branch Factories: Arlington, Texas; Rittman, Ohio; and Kansas City, Mo.
Sales Offices: Minneapolis, New Orleans, Atlanta, Memphis, Milwaukee, Louisville, New York, Pittsburgh, Denver and Los Angeles.

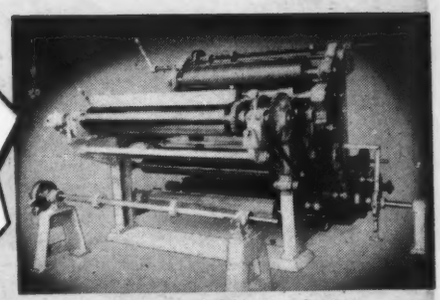
R.C. CAN CO. THE STAMP OF QUALITY ST. LOUIS, MO.

*Patented R. C. Can Company

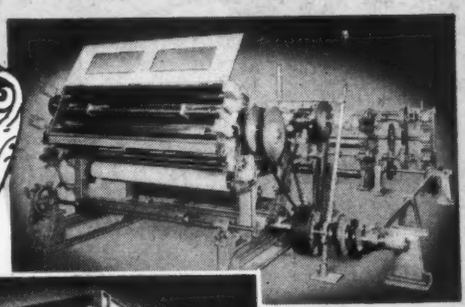
New Catalog just off the press

If your material or package must provide

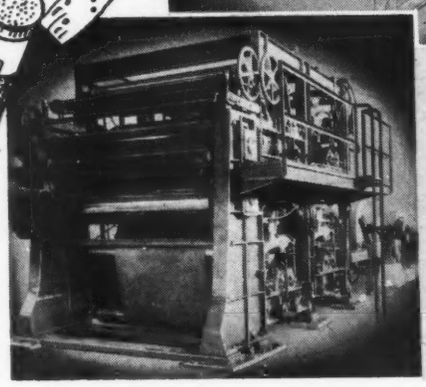
GREATER RIGIDITY
PROTECTION AGAINST MOISTURE, ACIDS, ETC.
CONSUMER APPEAL



Waldron—2 Web Laminator.



Special 2 Web Laminator for applying Cellophane to paper or board.



Five Web Laminator —fast running wide special unit.

Get The Facts About WALDRON LAMINATORS

These are the machines used by practically all the leading converters for producing the basic materials for an almost unlimited number of popular products. Waldron Laminators are built to handle from two to ten or more webs, combining such materials as paper, board, cloth, Cellophane, Pliofilm, metal foil, varnished paper, felt, sisal, burlap, wire, wadding, etc., at speeds up to 700 feet and more per minute. Designed for any type of adhesive, embodying advanced methods of guiding, controlling and drying, Waldron Laminators are providing the essential properties required, speeding up output and lowering production costs.

Send us the details of your laminating problem or requirements. Profit from Waldron's long engineering experiences in this field. Copy of our new descriptive Catalog No. 118 is available on request.

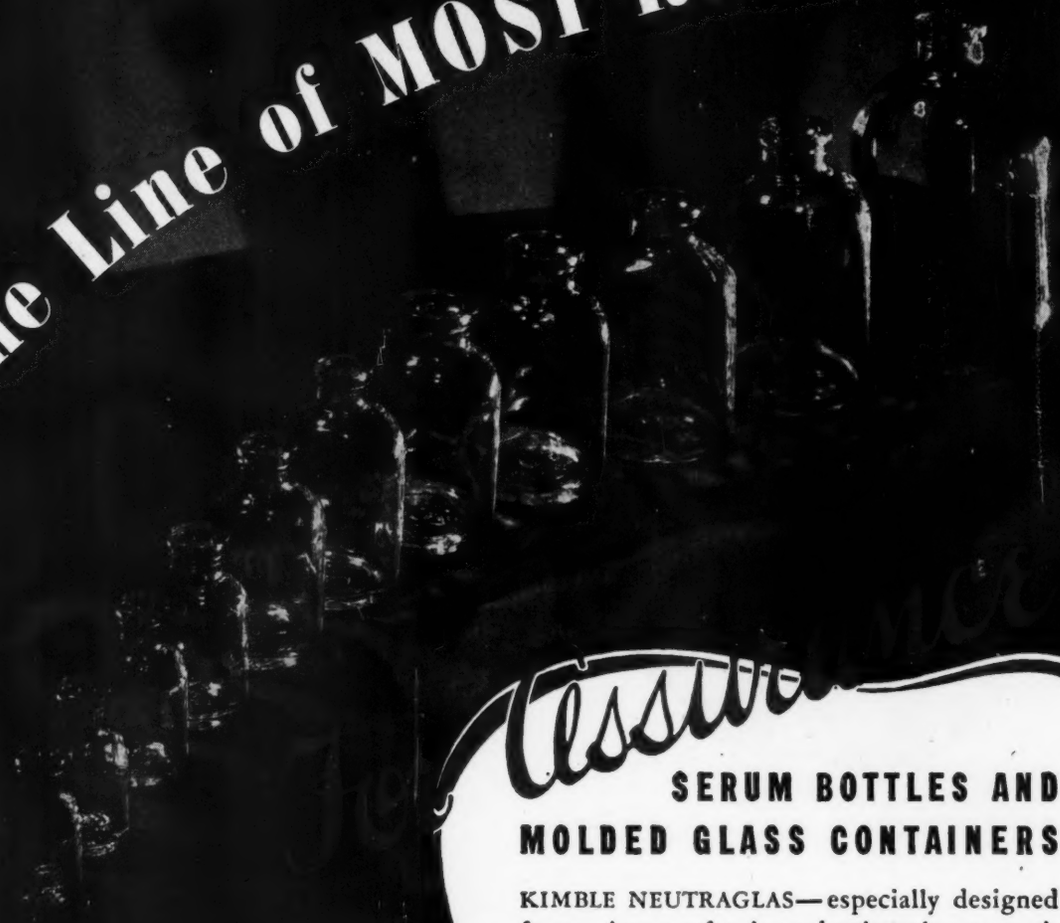
Printing Machines
Combining Machines
Crepeing Machines
Floor Covering Machines
Gumming Machines
Rubber Mill Machines
Wall Paper Printing
Waxing Machines
Winders and Slitters
Special Design Machines

JOHN WALDRON CORPORATION
Main Office & Works — NEW BRUNSWICK, N. J.

WALDRON
CONVERTING MACHINERY

KIMBLE'S NEUTRAGLAS (N-51A GLASS)

The Line of MOST Resistance



SERUM BOTTLES AND MOLDED GLASS CONTAINERS

KIMBLE NEUTRAGLAS—especially designed for maximum safety in packaging pharmaceuticals and biologicals—offers the highest resistance to chemical attack and solvent action.

Protect the quality, potency and pH value of your products by standardizing NOW on Kimble Ampuls, Serum Vials, Serum Bottles and Clinical Glass containers made of NEUTRAGLAS (N-51A Glass)—CLINICALLY SAFE.

• • • *The Visible Guarantee of Invisible Quality* • • •

KIMBLE GLASS COMPANY

Sheffalloy
TRADE MARK REGISTERED
SHEFFIELD PROCESS
TUBES

FLEXIBILITY . . TOUGHNESS . . are two of the important characteristics you must have in the collapsible tubes you specify. You will find *SHEFFALOY "Sheffield Process"* Tubes flexible as an old kid glove, or an elephant's trunk . . a sturdy, dependable package with a surplus reserve of pliability which will outlast the contents. Toughness, like the strong sinews of a wrestler, or the burly hide of a rhino, is inbuilt in the metal thru an exclusive process of melting, mixing and tempering *"Sheffalloy."* For post-war competition, for vital packaging problems now, when you need tubes specify *SHEFFALLOY "Sheffield Process"* Tubes! A phone call or letter to our nearest office will bring full details.

NEW ENGLAND COLLAPSIBLE TUBE CO.

3132 S. CANAL STREET, CHICAGO 16 • NEW LONDON, CONN. • W. K. SHEFFIELD, V. P., 500 FIFTH AVENUE, NEW YORK 18
THE WILCO COMPANY, 6800 McKINLEY AVE., LOS ANGELES 1

PACKAGING PUZZLES...

with a common solution

FOR PERISHABLE PRODUCTS, *protection* must precede all other considerations of what a good package should do. Only those products that reach consumers with initial qualities best preserved can compete successfully.

Perhaps your puzzler is one of escape of moisture or flavor . . . or keeping harmful influences out . . . or slowing chemical or bacterial reaction. Two types of Keller-Dorian papers have definite qualifications for the job.

One has a plastic coating; the other an aluminum foil lamination. Both stand up even at temperature extremes of 50° below and 190° above zero. They'll take the sub-zero temperatures of fast-freezing processes without brittling . . . high temperatures without peeling or becoming tacky.

With heat sealing, both provide an airtight, non-toxic barrier that keeps moisture in or out . . . prevents exposure and contamination . . . retards rancidity and early spoilage.

They're pliable, lending themselves to easy fabrication into any size or shape of individual wrapper. As a package protector for carton or crate enclosures they afford a high degree of efficient shielding.

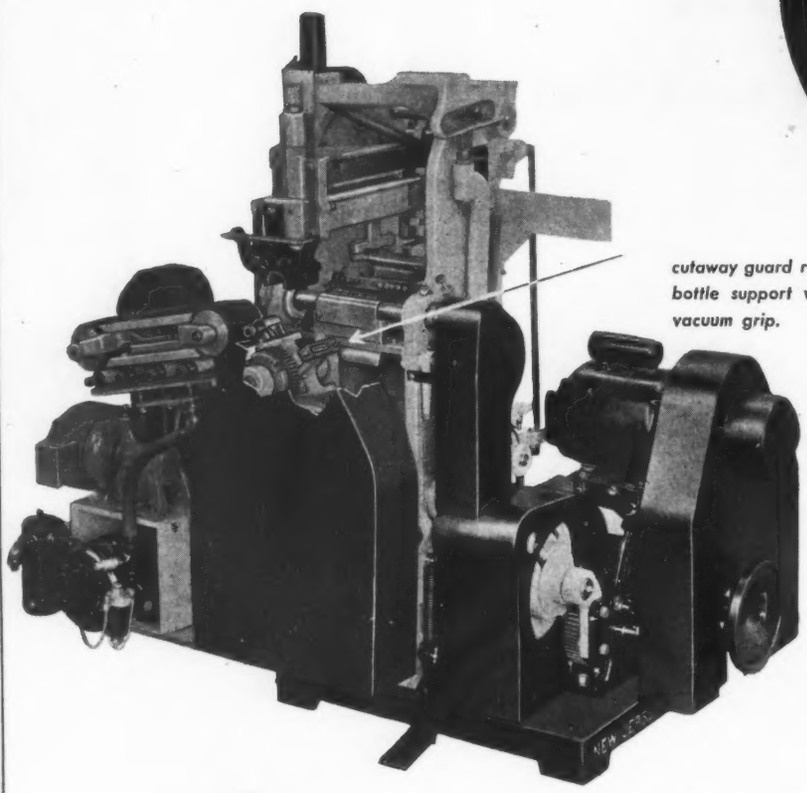
Do these properties of Keller-Dorian papers suggest application to your own special packaging needs? If they do, or if you wish further information, write to us. We'd like to send you samples for test, and data from our own investigations. They're doing a protective job for many products . . . and may do an equally effective job for your own.

KELLER-DORIAN
CORPORATION
Empire State Building
New York 1, N. Y.

FUNCTIONAL PACKAGING PAPERS *for Protecting Perishable Products*

Wrap-around LABELING

with only 1 attendant
(PERFECT REGISTER)
50 per minute
—or more!



cutaway guard reveals turret bottle support with positive vacuum grip.

A

*Pony Labelrite** *performance*

with turret-feed and positive glue-control that eliminates all bottle-wiping—

This development of the standard Labelrite, to handle full-surface gluing of wrap-around labels is recommended for small round bottles with labels that cover arcs of 120° or more. It solves problems of labeling cost, employee-scarcity and demand for neatness, and requires only ONE unskilled attendant to handle the complete labeling operation. Note all the exclusive LABELRITE features embodied in this economical and efficient unit. Requires less time for changes to varying sizes; handles bottles up to 1⅜ inches in diameter.

- **PERFECT REGISTER**
- **NO GLUE "SEEPAGE"**
- **NO "BOTTLE-WIPING"**
- **FULL SURFACE GLUING**
- **ALL EDGES GLUED DOWN**
- **SELF-CLEANING FEATURE**
- **NEEDS NO SKILLED OPERATOR**

Ask for details; send samples for complete data —

*Reg. U. S. Pat. Off

NEW JERSEY MACHINE
corporation

325 W. HURON ST.
CHICAGO, 10, ILL.

1701 CAREW TOWER
CINCINNATI, OHIO

1600 Willow Ave., HOBOKEN, N. J.

Christmas 1945

ADD TO THE CHEER OF THE SEASON BY USING WARM, COLORFUL DECORATED PAPERS — WE HAVE MANY NEW DESIGNS FOR

BOX COVERING—DISPLAY PAPERS AND GIFT WRAPPINGS

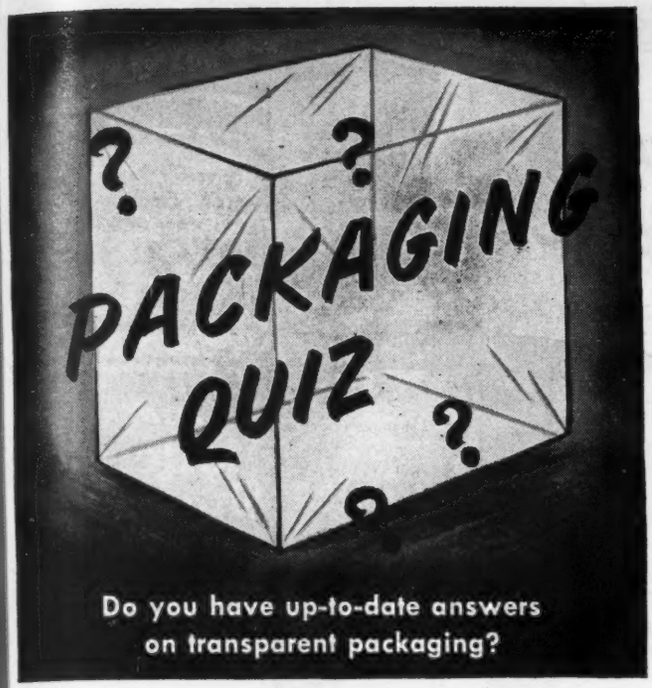
WHILE THE AVAILABILITY IS NOW LIMITED WE MAY BE ABLE TO TAKE CARE OF SOME OF YOUR NEEDS.

This sample Pattern 754B Base — Champion Kromekote, White.
Also made in other Color Combinations.

ROYAL PAPER CORPORATION

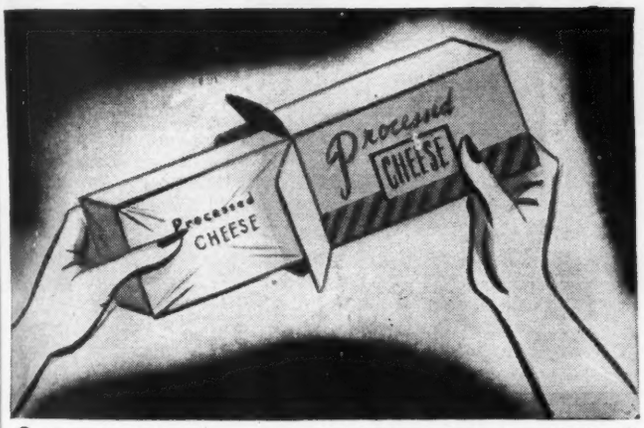
Manufacturers of Decorative Papers

210-216 ELEVENTH AVENUE • NEW YORK 1, N. Y.



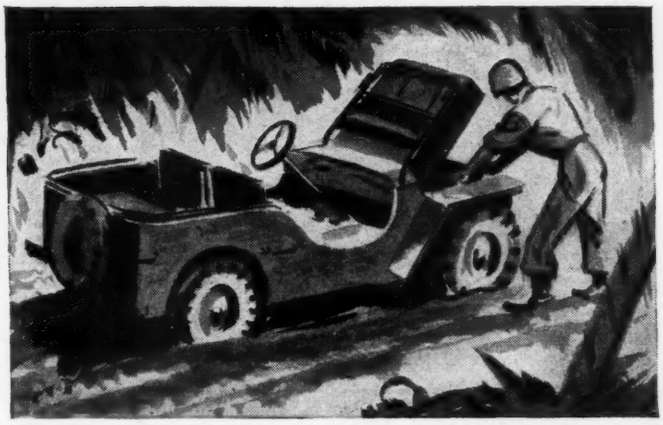
Q. Can you spot the use of Du Pont transparent film in this picture?

A. A Du Pont cellulose acetate film is laminated to the surface of the map, protecting it against moisture and soilage. The film also permits the soldier to make pencil notations which can be easily wiped off.



Q. How is this processed cheese kept in best condition?

A. The cheese has a protective wrapper designed to prevent the formation of mold, loss of moisture and change in flavor. The wrapper manufacturer applies a wax-like coating to Du Pont Cellophane, making it soft, pliable and conforming. The hot cheese is poured into the wrap, excluding all air. When cooled, the cheese clings to the wrapper and thereby eliminates the formation of air pockets where mold might form. The combination of Cellophane and special coating makes the package moistureproof, moldproof, and airtight.



Q. How will Cellophane help get this jeep running again?

A. Small metal repair parts, gaskets, etc.—items that are vital to the mechanic—must be on hand when needed and, most important of all, must be in a usable condition. The moist, steamy climate of the Pacific area and the long overseas travel demand a highly protective package to prevent rust, corrosion or other damage. Du Pont Cellophane plays an important role in the fabrication of such protective packages.

You can select the transparent film best suited to your needs from 56 types developed by Du Pont in three basic classifications—Cellophane, cellulose acetate film and polyvinyl alcohol film. Our packaging experts will be glad to help you make your selection. Military requirements have limited our converters and ourselves in supplying civilian needs. Investigate Du Pont films now, so you can take full advantage of transparent packaging soon.

BUY BONDS REGULARLY!

DU PONT

REG. U.S. PAT. OFF.

Cellophane

Shows what it Protects—at Low Cost

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

Ever figured your shipping costs on tubes?

These examples may give you some idea of the shipping weight you can save by using aluminum tubes

Diameter and Approx. Length	⅝ x 4½	⅞ x 5	1⅛ x 5½	1½ x 7
Approximate Net Weight per Gross	.64 lbs.	1.04 lbs.	1.53 lbs.	3.12 lbs.

You may be surprised when you figure out the shipping costs on the tubes you use in a year. They don't travel for free!

Alcoa Aluminum Tubes will cost you less to ship than tubes made from other metal. Some day when you are in a money-saving frame of mind, figure out just how much money they can save you. Let us know your sizes and we will tell you what they weigh.

Though it is impossible right now to supply all the Alcoa Aluminum Tubes that are wanted for civilian packaging, we will be glad to talk with you about your future needs. Write ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA

ALCOA ALUMINUM TUBES

HERE'S YOUR CHANCE TO TEST VIPACO '6-ACTION' GUMMED TAPE

1. STICKS FASTER!
2. GRIPS STRONGER!
3. SEALS CLEANER!
4. WON'T SIDE SLIP!
5. FOLDS SMOOTHER!
6. ADHERES PERMANENTLY!

Here's the amazing, improved gummed sealing tape that means better, more economical packing and shipping for you. VIPACO "6-Action" gummed tape is stronger, yet less bulky . . . a specially prepared glue gives even overall coverage and won't side-slip . . . unusual flexibility allows for gripping around corners . . . it sticks instantly without added pressure.

VIPACO gummed sealing tape is the answer to many a wrapping problem! It's available in all sizes. *Test it for yourself*—write now for a SAMPLE—no obligation. Prices on request.

DISTRIBUTED BY

The VIKING

PAPER COMPANY, INC.

542-544 WEST BROADWAY
NEW YORK 12, NEW YORK

MAIL THIS COUPON FOR SAMPLE

VIKING PAPER COMPANY, INC. A
542-544 West Broadway, New York 12

SEND ME a Sample of your improved VIPACO "6-Action" Gummed Sealing Tape—I'd like to test it for myself. No obligation.

Name_____

Address_____

City_____ State_____

Soon to be yours

all the advantages of war-time

FLEXIBLE PACKAGING

MEMBER

FLEXIBLE · PACKAGING · INSTITUTE · fpi

Allied Paper Bag Corporation, Baltimore, Md.
American Bag & Paper Co., Philadelphia, Pa.
The American Paper Goods Company, Kensington, Conn. and Chicago, Ill.
Arkell & Smiths, New York, N. Y.
Arlette, Inc., Bloomfield, N. J.
Beier & Company, Chicago, Ill.
Bemis Bros. Bag Co., Indianapolis, Ind.
Benj. C. Betner Co., Devon, Pa.
Alfred Bleyer & Co., Brooklyn, N. Y.
Brown Paper Goods Co., Chicago, Ill.
Capital Envelope Co., Ltd., Los Angeles, Calif.
Central States Paper & Bag Co., St. Louis, Mo.
Central Waxed Paper Company, Chicago, Ill.
Cupples-Hesse Corporation, St. Louis, Missouri
Custom-Made Paper Bag Co., Long Island City, N.Y.
Diaphane Bag Corporation, Philadelphia, Pa.
Dixie Wax Paper Co., Memphis, Tenn. and Dallas, Texas
Duplex Coffee Bag Co., Glendale, N. Y.
The Jaite Company, Jaite, Ohio
Kehr Paper Products Co., Philadelphia, Pa.
Kellogg Container Division, United States Envelope Co., Springfield, Mass.
Kennedy Car Liner and Bag Company, Inc., Shelbyville, Ind.
Marathon Corporation, Menasha, Wis.
Mehl Manufacturing Company, Cincinnati, Ohio
Milprint, Inc., Milwaukee, Wis.
Monoca Bag & Mfg. Co., Inc., Toledo, Ohio
Moser Bag & Paper Company, Cleveland, Ohio
Oneida Paper Products, Inc., New York, N. Y.
Orchard Paper Company, St. Louis, Mo.
Paramount Paper Products Co., Inc., Philadelphia, Pa.
Thomas M. Royal & Co., Philadelphia, Pa.
C. E. Stevens Bros. Inc., Baltimore, Md.
Union Bag & Paper Corporation, New York, N. Y.
Western Paper Converting Co., Salem, Oregon

AT SEA, on land, and in the air, the lives of our fighting men depend upon *the efficient performance* of the weapons with which they fight and the food and medical supplies by which they live. Throughout these war years, flexible packaging has done much to assure *peak efficiency* for vital matériel.

Packaging for the Permutit desalter is but one of many assignments fabricators are being called on to accomplish in a few brief weeks. This chemical which converts sea water into drinkable water must not fail the airman downed at sea. *And it doesn't.* Thanks to flexible packaging, the briquets used by life raft "squatters" retain their effectiveness to the moment of use.

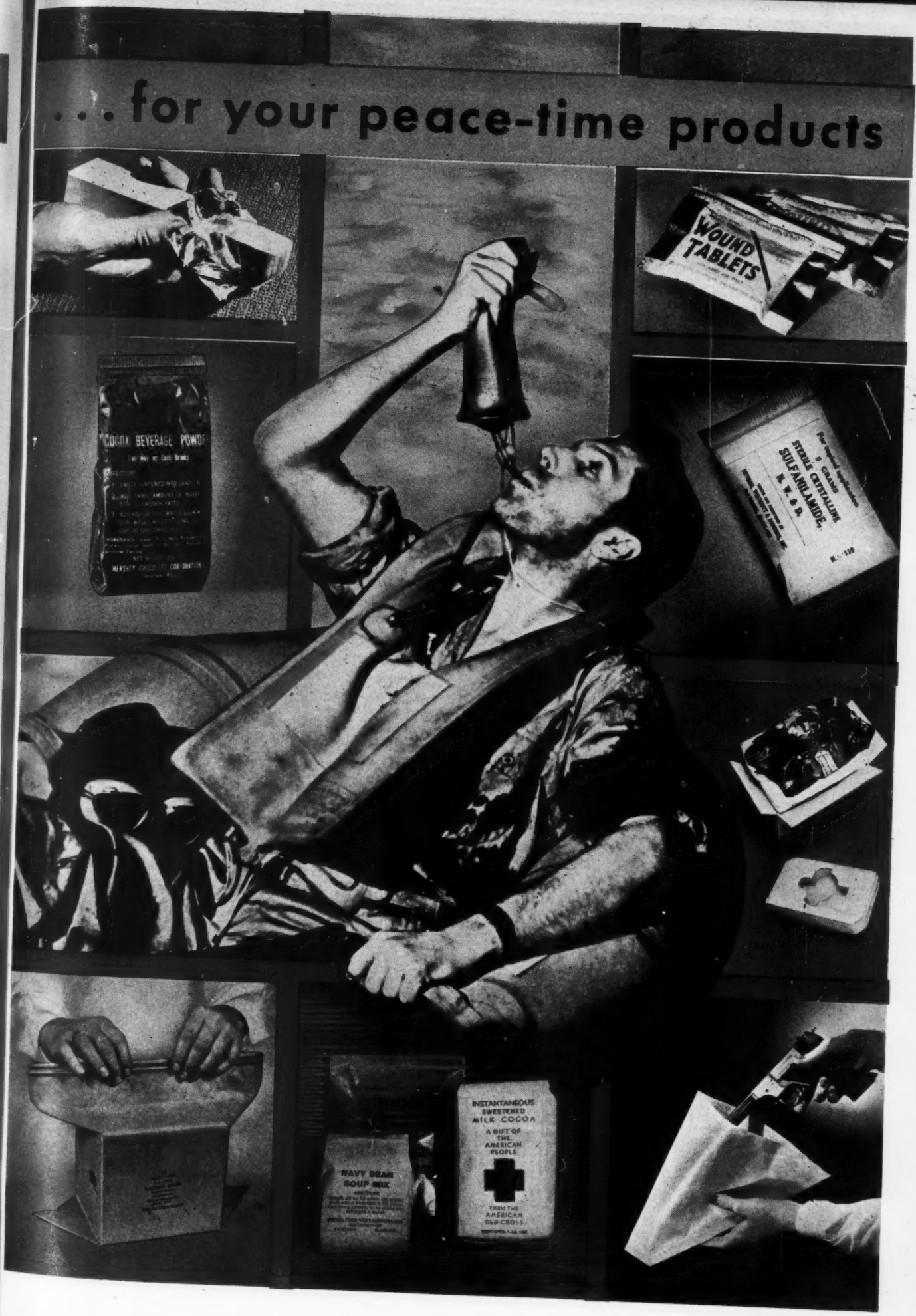
Each unprecedented demand met today helps members of the flexible packaging industry widen their base. Protection against temperature extremes—excessive humidity—fungi molds and infestations — violent shipping stresses — is being built into war-time containers, according to the need.

Tomorrow the same protective qualities will guard your product to world markets. Improved materials, new chemical processes and advanced packaging techniques will help you lower packaging and shipping costs and will increase the sales appeal of your product.

Member companies of the Flexible Packaging Institute are still participating in the war effort. But they, like you, are thinking in terms of peace-time packaging. If you have a packaging problem, the Institute will be glad to assist you in every possible way. Simply write to the address below.

FLEXIBLE PACKAGING INSTITUTE

369 Lexington Avenue » » » » New York 17, N. Y.


. . . for your peace-time products
WOUND TABLETS
COCOA BEVERAGE POWDER
STERILE CRYSTALLINE SULFANILAMIDE U.S.P.
INSTANTANEOUS SWEETENED MILK COCOA
A GIFT OF THE AMERICAN PEOPLE
THRU THE AMERICAN RED CROSS
NAVY BEAN SOUP MIX

SHATTERPROOF SEAMLESS

Plastic CONTAINERS

ALL COLORS
TRANSPARENT
or
OPAQUE

with OUTSTANDING Advantages

Your label processed during production. These beautifully colored, eye-appealing *plastic* containers survive handling because they are *resilient* They permit product-visibility with shatterproof, seamless protection against either breakage or shop-handling. *They keep new things NEW;* with a style and quality that has long been associated with containers of

Clearsite*

for DRUGS —NOVELTIES—HARDWARE—MACHINE PARTS INSTRUMENT PARTS—PHARMACEUTICALS—TOOLS SURGICAL or DENTAL PRODUCTS—DRY CHEMICALS TOYS —SPORTING GOODS—FINDINGS—COSMETICS —ETC.

* Registered U. S. Pat. Off.

TECHNICAL STAFF and PACKAGE DESIGN ENGINEERS AT YOUR SERVICE

CELLUPLASTIC CORP.

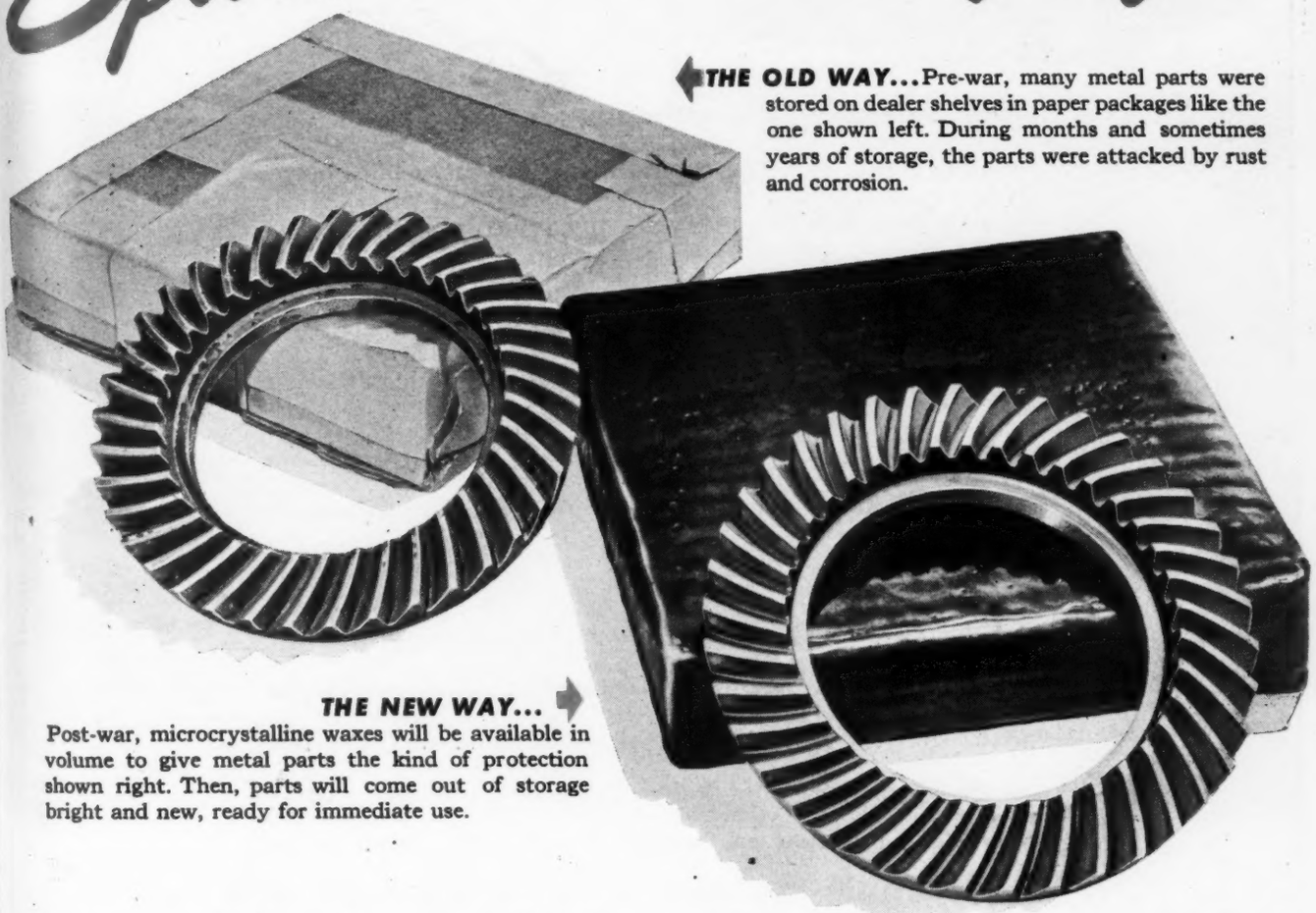
CELLUPLASTIC CORPORATION

38 AVENUE L NEWARK, N. J.

WEST COAST REPRESENTATIVES: CONTAINER SERVICE CO., 1266 North Western Avenue, Los Angeles 27, Cal.

PLAN ON USING MICROCRYSTALLINE WAXES FOR...

Spare Parts Packaging!



THE OLD WAY... Pre-war, many metal parts were stored on dealer shelves in paper packages like the one shown left. During months and sometimes years of storage, the parts were attacked by rust and corrosion.

THE NEW WAY... Post-war, microcrystalline waxes will be available in volume to give metal parts the kind of protection shown right. Then, parts will come out of storage bright and new, ready for immediate use.

SOLVING war shipping and storage problems has opened up many new fields for the use of Socony-Vacuum microcrystalline waxes.

These pictures show one typical example—the packaging of metal spare parts stored by dealers. Army Ordnance has found this light-weight, flexible, waterproof packaging to be the perfect protection for metal parts in shipments overseas. Parts protected by this new packaging procedure are ready for immediate use when opened. Peacetime planners will want the same proved protection for spare parts for autos, radios, refrigerators, etc.

Yet this is just one of the promises of microcrystalline waxes. Others include improved packaging for frozen and dehydrated foods, medicines and perishables of all kinds.

Talk to your Socony-Vacuum Representative about the possibility of applying microcrystalline waxes to your packaging needs. He'll be glad to give you facts and figures and assist you in proper application.

SOCONY-VACUUM OIL CO., INC.

26 BROADWAY, NEW YORK 4, N. Y.

Process Products — SOCONY-VACUUM

Standard Oil of N. Y. Div. • White Star Div. • Lubrite Div. • Chicago Div. • White Eagle Div. • Wadhams Div. • Magnolia Petroleum Co. • General Petroleum Corp. of California

Call in Socony-Vacuum Process Products Research and Service—

TUNE IN "INFORMATION PLEASE"—MONDAY EVENINGS, 9:30 E.W.T.—NBC

Our salesmen are unhappy **... and why wouldn't they be? There's nothing a salesman likes better than a good fight for business, and today our men are not able to fight. An order from a new customer would only make them unpopular. We are in the unfortunate position of not being able to handle new accounts.**

Things can't last as they are, however. We know that our salesmen will be happy again . . . fighting for business again . . . perhaps very soon.

In the meantime, our facilities must be reserved for our responsibilities to established customers . . . to serving them with the creative ability and manufacturing efficiency which have earned for Walter P. Miller Company a fifty-year-old reputation as "a good house with which to do business."

WALTER P. MILLER COMPANY, INC.

CREATORS AND PRODUCERS OF

Set-up Paper Boxes

PHILADELPHIA

These Little Packages

HAVE BEEN TO EUROPE AND BACK

Yet They're Still in Perfect Condition— Thanks to Kennedy Protective Packaging

Last November, these two little packages embarked on a strange journey—one that was to carry them all the way to war-blazing Europe and back.

Fortunately, the shipper applied *Kennedy Protective Packaging Methods* in wrapping them. They were for his soldier-son in Belgium, and he wanted to be very sure they reached him in perfect condition.

But, while the packages were en route, the soldier was wounded. The packages followed him from hospital to hospital, but the boy was back home in America before they finally caught up with him . . . after a six-months-long chase!

The significant thing about this episode (from the packager's viewpoint) is that—despite all hardships and hazards of wartime shipping—the packages returned safe and sound . . . candy and gum virtually as fresh and tasty as the day shipped.

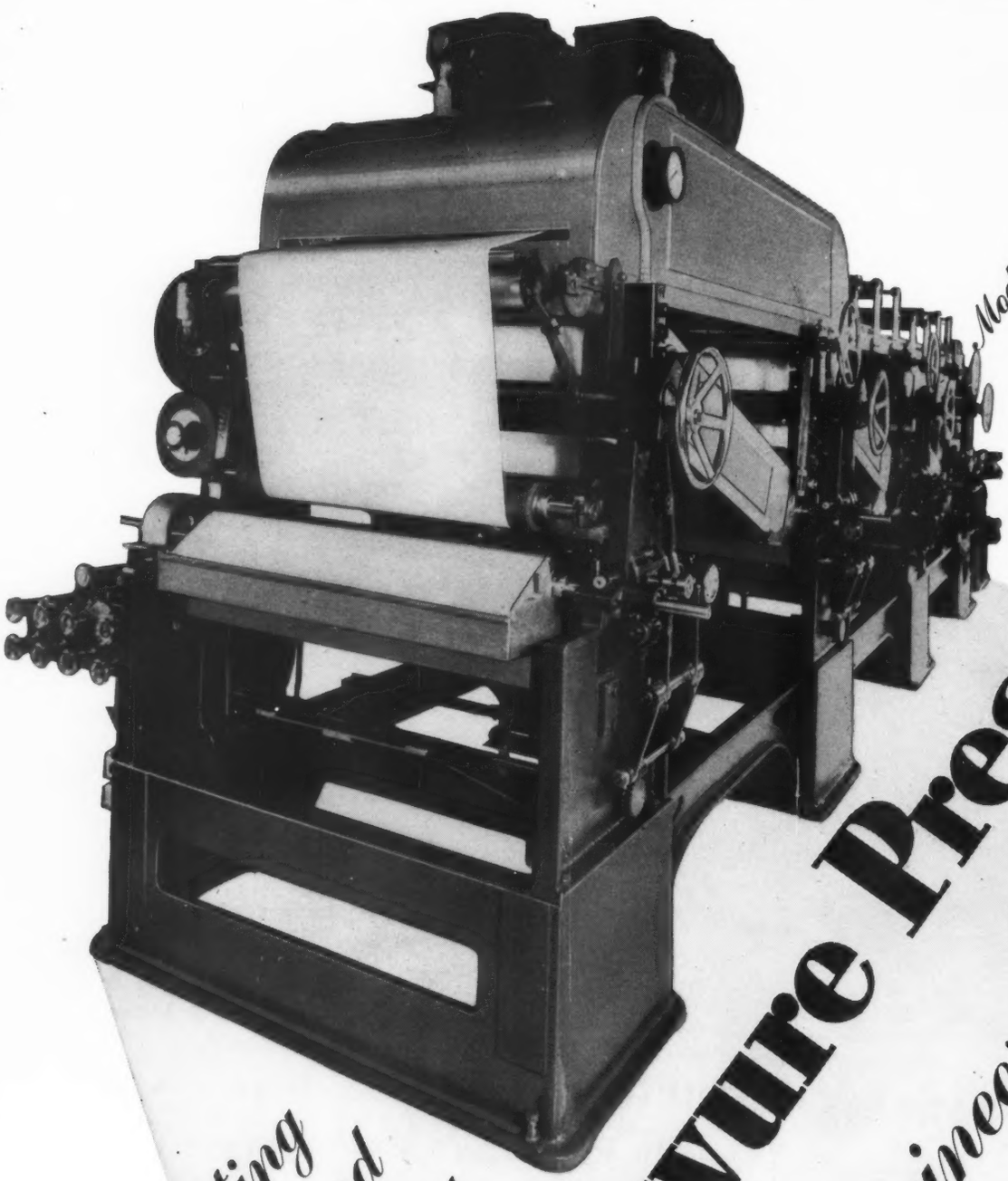
And the Moral: If your product requires positive packaging protection against dirt, dust, moisture, water, vapor, air . . . *Consult Kennedy!*

KENNEDY CAR LINER & BAG COMPANY, INC., SHELBYVILLE, IND.

FABRICATORS IN WATERPROOF PAPER
KRAFT PAPER · PLIOFILM · SARAN
VINYLS · METAL FOIL · CELLOPHANE

PACKAGING PIONEERS
Kennedy

CANADIAN PLANT: WOODSTOCK, ONTARIO • SALES OFFICES: NEW YORK, CHICAGO, CLEVELAND, DETROIT, KANSAS CITY, LOS ANGELES, ATLANTA



Model 30D, front view

Rotogravure Presses

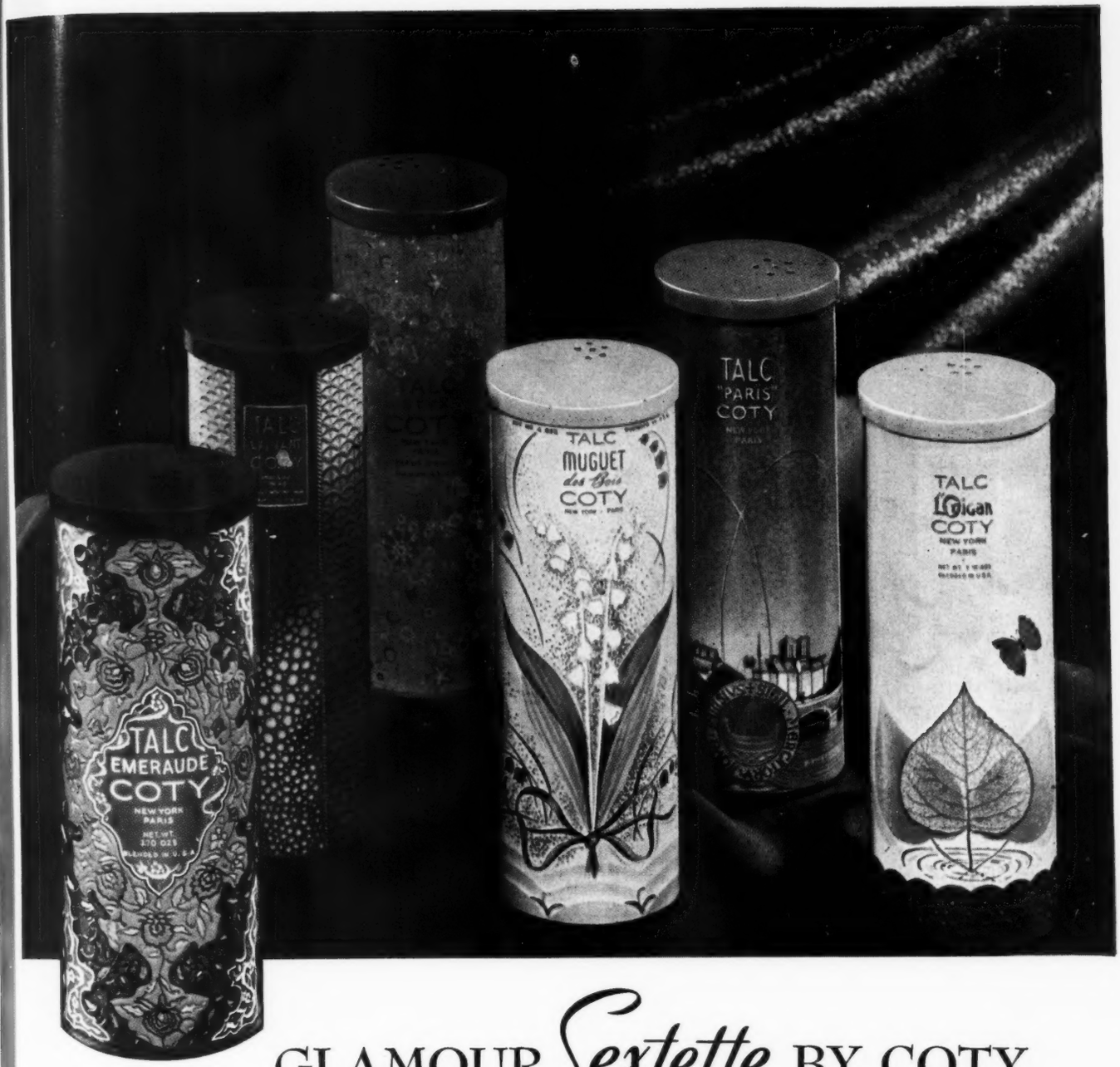
by

Rotogravure Engineering Co.

DIVISION OF MILLER PRINTING MACHINERY CO.

299 Marginal Street
East Boston 28,
Massachusetts

for
package printing
paper processing and
specialized printing



GLAMOUR *Sextette* BY COTY

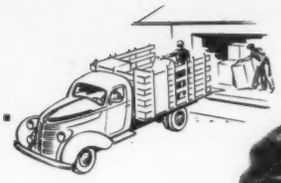
CRAFTSMANSHIP BY RITCHIE

Here six famous Coty tradenames, six beautiful labels by Coty, are given striking identification in packages by Ritchie. The unique plastic sifter tops*—in harmonizing pastel shades—rotate *freely* to start or cleanly shut off the flow of powder. Filling is easily accomplished through full size opening of fibre tube. Plastic top *snaps* into place over felt disc, which prevents powder from sifting through. Thus art and artisanship are combined to produce practical "beauty in packaging."

**container patents pending*

W. C. *Ritchie* AND COMPANY
8846 Baltimore Avenue, Chicago 17
- SET-UP PAPER BOXES
- FIBRE CANS
- TRANSPARENT PACKAGES

NEW YORK • DETROIT • LOS ANGELES • ST. LOUIS • MINNEAPOLIS

OVERSEAS... OR OVER HERE... 

DELIVER THE GOODS

Dry!

Shipping overseas? Let WOLFE Liners "convoy" your product safely through moisture hazards during shipment or storage. These Liners are veterans of Arctic-to-Tropic war shipping . . . to make all types of cases and cartons WATERPROOF.

In your plans for civilian products —now or in the future—check with WOLFE about packaging! Safeguard quality and goodwill with these economical, easy-to-use WOLFE Liners . . . made of sturdiest materials . . . using tough papers scientifically waterproofed. Laboratory-tested for stability. In 3 standard styles for inside or outside use . . . flat style, automatic opening style, top sheet style . . . all sizes. Write today concerning WOLFE Waterproof Liners, special types of waterproof covers and liners, or for information on other special packing problems. Representatives in all principal cities. Robert F. Wolfe Company, Fremont, Ohio.

WAR PROVED

WOLFE *Waterproof* LINERS

Look what happened to a bucket of paint!

IT WAS like this. The problem of storing and stocking all the required shades and tones of colors was always one of the leading headaches in the paint business.

Until the Murphy Varnish people of Newark, N. J. hit upon the idea of having all the different tinting pigments packaged in little, one-shot containers. This was the first *new* idea in paint merchandising in fifty years.

These made it possible for dealers to carry little more than basic white paint in the customary cans. The desired tints and colors are available when, as, and if needed—by simply adding the contents of these individual containers to the white paint.

However, great as the idea was, it almost died aborning. Murphy could not find satisfactory containers for these pigments.

Then, we here at Sun Tube stepped in. We suggested our wonderfully convenient one-shot tubes, known as Unitainers. And the Murphy people decided to give them a try.

The result, in case you don't know the paint business, revolutionized merchandising and packaging developments in that field.

Here's where you come in

You may be wondering what this story has to do with you . . . and *your* business.

Just this. It's a typical example of the way Sun Tubes may answer your packaging problem. An example of the type of thinking our designers and engineers might bring to bear on your particular problem—either now or postwar.

You already know the virtues of the collapsible tube. The fact that it is convenient and compact, that it's germ- and light-proof. That it is virtually unbreakable, that contents won't dry out even in use.

What you may *not* know, however, is that new developments have made Sun Tube the ideal container for a host of products never hitherto even considered prospects for a tube.

If you would like some information and advice on your own packaging problem, won't you give our nearest representative a call or send him a card today?

SUN TUBE CORPORATION

Hillside, New Jersey

CHICAGO 1, ILL.
James L. Coffield, Jr.
360 No. Michigan Avenue

ST. LOUIS 1, MO.
M. P. Yates
Arcade Building

ST. PAUL 1, MINN.
Alexander Seymour
615 Pioneer Building

LOS ANGELES 27, CALIF.
R. G. F. Byington
1260 North Western Ave.

For the *final steps* on
PROTECTIVE PACKAGING

SOLSEAL
WATER-RESISTANT TAPE

MEETS JOINT ARMY & NAVY SPECIFICATION J.A.N.-P-128
For WATER-RESISTANT TAPE

• SOLSEAL Water Resistant Tape is made expressly to meet Joint Army & Navy Specification J.A.N.-P-128, under which the use of water repellent tapes on certain shipments is now mandatory. SOLSEAL is recommended particularly for the sealing of interior waterproof packages for overseas shipments. Get in touch with your McLaurin-Jones distributor or with us, for samples.

SOLSEAL
LABEL PAPER

FOR SHIPMENTS REQUIRING WATER-RESISTANT LABEL PAPER

• For labeling overseas packages . . . for labeling any shipments on which water-resistant labels are required . . . suggest SOLSEAL Water-Resistant Label paper.
Made of 60 lb. Kraft, SOLSEAL is not only water-resistant, but will withstand the effects of heavy humidity . . . even actual immersion in water, as well as temperature extremes. It adheres firmly to fibreboard containers, to glass, and to some metals. Ask your merchant for samples and complete details about the printing quality of McLaurin-Jones Solseal Label Paper.

HEAT SEAL
FOOD LABEL

TO IDENTIFY FOOD PRODUCTS THE MODERN WAY

Developed as a result of government instructions to packers to place bands on frankfurters, sausages and other prepared meats in conformity with Pure Food Laws. Odorless—therefore particularly well adapted for labeling foods. **EASILY ATTACHED** . . . heat sealing. Temperature for proper sealing depends upon length of time of contact with heating element and amount of pressure applied, but 225°-250° F. appears to be satisfactory on most equipment. Sticks to moisture-proof cellophane at 225°-250° F. Send for test samples.
COMPLIES WITH ALL GOVERNMENT REGULATIONS

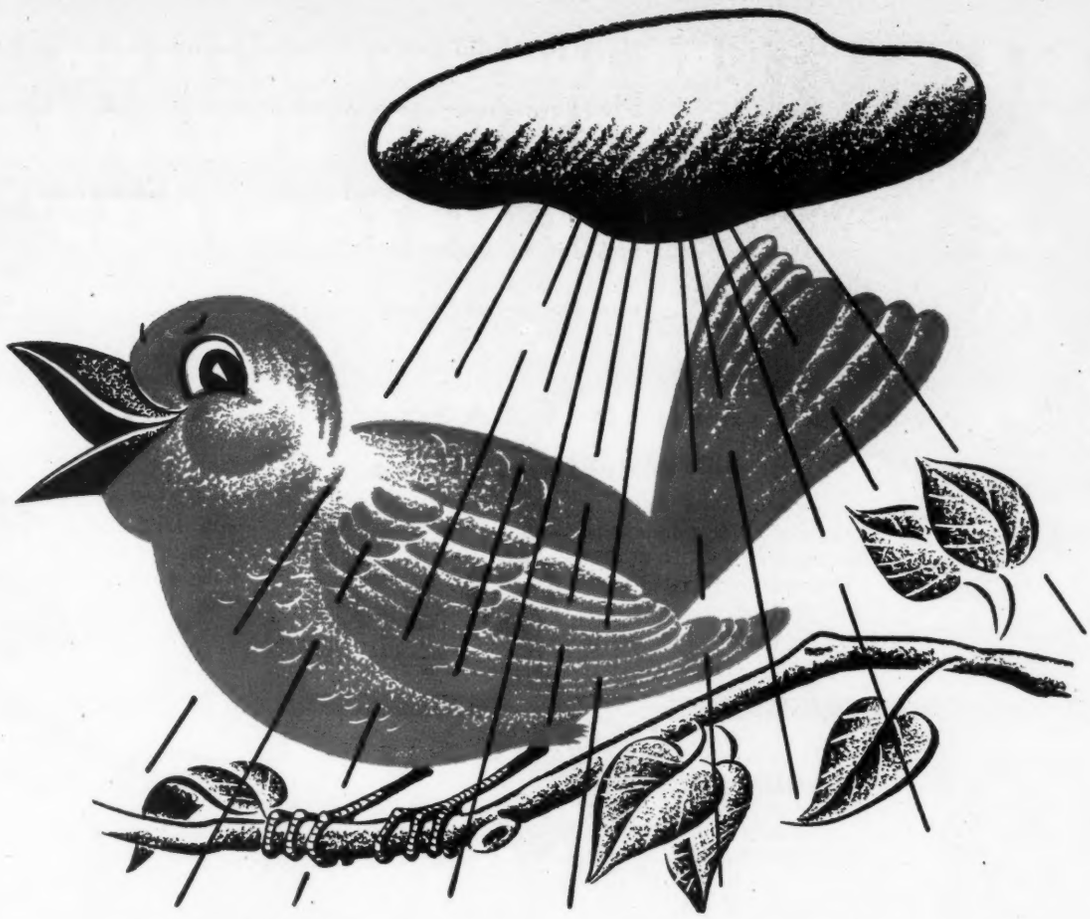
McLAURIN-JONES COMPANY
496 MacLaurin St., BROOKFIELD, MASS. • Offices in New York • Chicago • Los Angeles

Again Available
for
BOX COVERINGS
and
LABELS

* * *

OLD TAVERN
PLATINUM
and
WARE-PLATINUM
(Pyroxylin Coated Papers)

Old Tavern is a proven economical metallic paper with many virtues of pyroxylin coating. Both papers have an air of quality and refinement that transmits itself directly to the product . . . adding to its eye-appeal . . . to its sales value. Both are well known for the splendid service they have given in the packaging field during pre-war years.



His COLOR never fades

Whether it rains or shines, his color always sparkles, always attracts.

Palm Brothers Decals too, have that quality of permanency that enable your sales messages to sparkle and attract under conditions that tend to obliterate other forms of identification.

Easy to use on any commercial surface, economical to buy, Palm Brothers Decals are your guaranteed marks of success.

Write today for your free copy of new Bulletin No. 352.

THE PALM BROTHERS Decalcomania Co.

CINCINNATI..12...OHIO..U.S.A.

SCHOOL

Back to school and additional problems for the housewife.
More lunches—more after-school snacks.

Your product in Hazel-Atlas Glass Containers
is going to make her choosing easier
and the grocer's problem simpler.

HAZEL-ATLAS GLASS COMPANY
Wheeling, W. Va.

NOW! TANGLEFOOT BRINGS YOU SEALING SOLVENT W-51 IN CONCENTRATED POWDER FORM

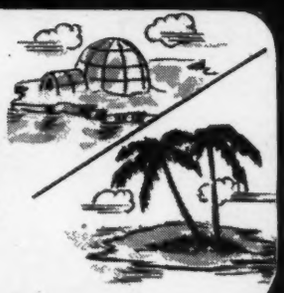
NEW SEALING SOLVENT W-51 PROVIDES BETTER WATER-RESISTANT PACKAGING . . . SAVES TIME . . . SAVES LABOR . . . SAVES MONEY!

LET IT POUR

. . Sealing Solvent W-51, when used with Solseal Tape provides complete water-resistant sealing. No moisture can enter through the seal . . . tape will hold firmly without buckling.

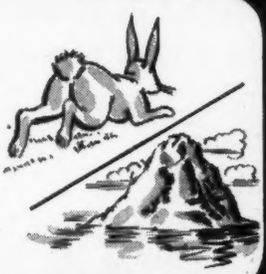
HOT OR COLD

. . . Tests have shown that, when applied with Sealing Solvent W-51, Solseal Tape will hold firmly even under extremes of temperature. Tape will neither peel nor buckle.



ACTS FAST...STAYS PUT

. . . Sealing Solvent W-51 provides a firm set within five seconds, making a permanent bond for Solseal Tape. Tape will not loosen, despite any rough handling of packages.

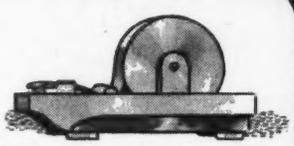


CONFORMS TO JAN-P-128

The Army & Navy specify: "The following materials are recommended:

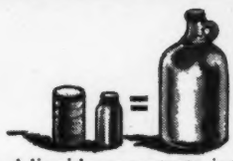
a) Waterproof adhesives
b) Water-resistant paper tapes, moistening type."

USE YOUR REGULAR EQUIPMENT



No special equipment is required to provide water resistant packaging. With Sealing Solvent W-51 and Solseal Tape in your tape dispenser you are all set to handle waterproof sealing jobs quickly, easily and cheaply.

EASY TO USE— NO FUSS OR EFFORT



Nothing could be simpler . . . you just put the powder and liquid concentrate into water . . . immediately, with no fuss or effort, you have full strength liquid Solvent W-51 ready for use in any standard tape dispenser.

SIZEABLE SAVINGS . . . Shipping W-51 in concentrated powder form reduces freight costs as much as 90%. Actual product cost is about 50% less, too.

Ordinary Kraft paper tapes, when wetted with Solvent W-51, though not waterproof, are better able to resist damage from the elements and are more suitable for domestic packaging and shipping.

Order your supply of the new "dry" form Sealing Solvent W-51 from your regular paper merchant, or send coupon, below, for free sample.

SEALING SOLVENT W-51 IS EASILY HANDLED—SAVES ON COST TO YOU BECAUSE IT'S SHIPPED IN NEW "DRY" FORM

A Product of

The TANGLEFOOT COMPANY

360 STRAIGHT AVENUE, GRAND RAPIDS 4, MICHIGAN
New York City Chicago Kansas City

Makers of
Gummed Tape, Solvents, Insecticides and Flypaper

360

The Tanglefoot Company
Grand Rapids 4, Michigan

Please send me, without obligation, a sample of your new "Dry Form" W-51 Sealing Solvent.

Name and title .....

Firm name .....

Address .....

City ..... *State* .....

LAMINATION . . . Millions of pounds of our laminating ADHESIVES whether emulsion, lacquer or melt, have been used in combining foils, papers and film to each other or to themselves. This attests our position in an important new field. When you use laminations for more service and beauty in your packages, you will want to investigate our ADHESIVE for the conversion into bags, cartons or setup boxes.

UPACO ON PARADE

GLU-WELD WATER-RESISTANT ADHESIVES • FLEXIBLE GLUES • STRIPPING GLUES • TRANSPARENT FILM ADHESIVES • FOLDING BOX ADHESIVES

UPACO

UNION PASTE COMPANY

QUALITY ADHESIVES SINCE 1866

1605 HYDE PARK AVENUE - HYDE PARK, MASS.

UPACO

CASE, BAG AND CARTON SEALING GLUES • LABELLING ADHESIVES • LAMINATING ADHESIVES FOR FILMS, PAPERS AND CLOTHS

Ration K now packed

4 times Better than before

Inner carton is wrapped in "Maraweld", a three-ply sheet containing .0005" Alcoa Aluminum Foil laminated between two other protective sheets. "Maraweld" is a cooperative development of the U. S. Quartermaster Corps and the Marathon Corp., Menasha, Wis., producer of the sheet.

New wrapper contains *Alcoa Aluminum Foil...*

Many sheets have been tried . . . and found wanting . . . for protecting Army rations against invasion by tropical moisture. The Quartermaster Corps, working with package material producers, has persisted at developing something better . . . and has succeeded!

The new laminated sheet containing Alcoa Aluminum Foil is now specified for wrapping the Ration K carton. It will soon be proving its merit in Pacific war theatres.

Its superiority has already been proved to the satisfaction of the Quartermaster Corps in its own "Tropical" storage rooms. Subjected for long periods to 90% relative humidity at 100° F., the wrapper containing Alcoa Aluminum Foil proved approximately four times more effective than the old type in resisting moisture-vapor transmission. Consequently, spoilage is greatly reduced.

This new material has a great future in peacetime packaging . . . perhaps for *your* products. ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh 19, Pa.

ALCOA ALUMINUM

ALCOA ALUMINUM FOIL

THE BIGGEST THING IN THE WORLD CAN BE A PIECE OF PAPER

Why a paper hunt helps business

The acute paper shortage continues —for many reasons.

Great quantities of military supplies, shipped back from Europe, have to be repacked. Shipments to the Pacific theatre have to be double-packed to guard against spoilage. All this means paper and more paper. Then there's the tremendous amount of paper work for redeploying millions of men.

You as a businessman also have mounting needs for paper. Your present production consumes a lot of it —and you have extensive promotional material coming up.

Where is all this paper coming from?

Office files and desk drawers are "gold mines" of paper that can be salvaged. Old printed matter, outdated correspondence, old forms and books—countless tons of paper gathering dust in the nation's offices. Printers, too, steadily accumulate cuttings and clippings of vitally needed paper.

So institute regular paper hunts at your office or business. Assign someone to collect and pack every scrap of unused paper and turn it in to the local paper salvage depot.

In that way you'll be speeding victory—as well as helping to relieve the tight paper situation for business in general.

OXFORD PAPERS

OXFORD PAPER COMPANY

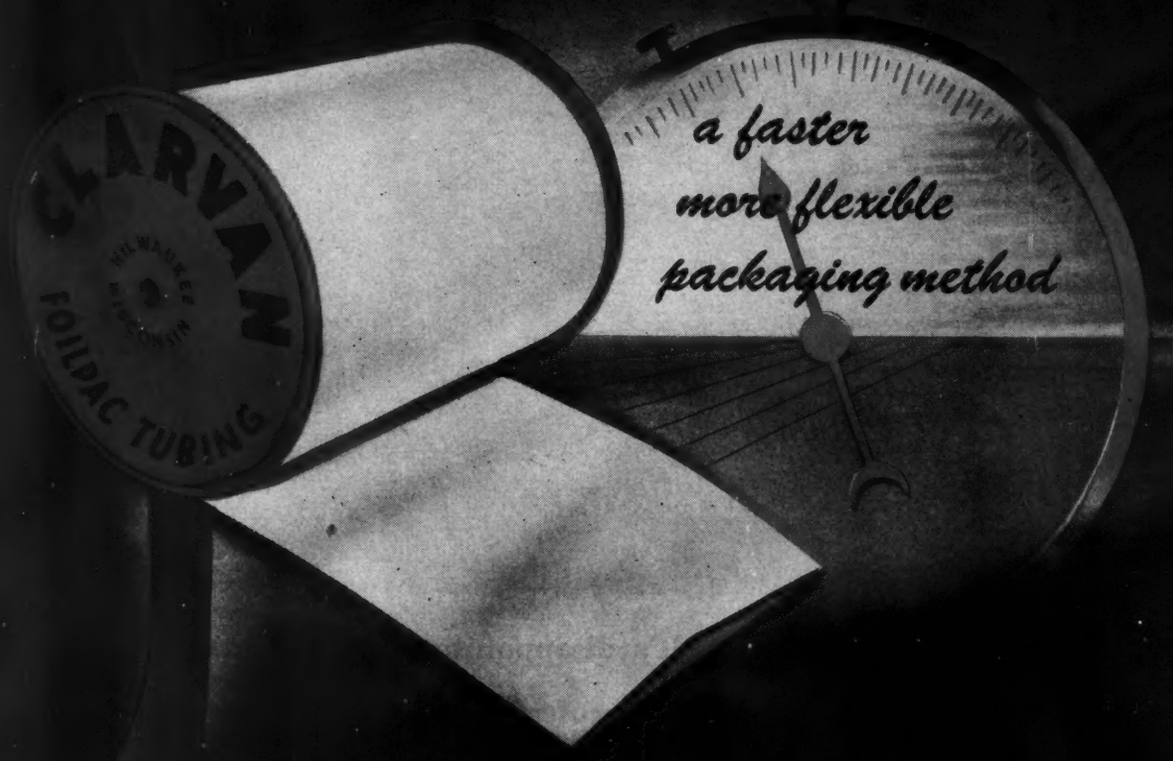
230 Park Avenue, New York 17, N.Y.

MILLS at Rumford, Maine and West Carrollton, Ohio

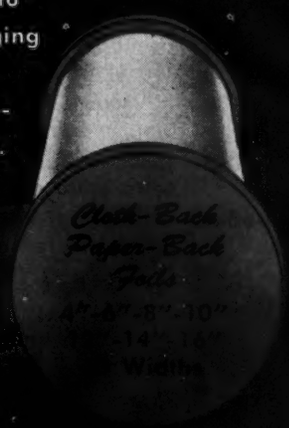
WESTERN SALES OFFICE: 35 East Wacker Drive, Chicago 1, Ill.

Included in Oxford's line of quality printing and label papers are: Enamel-coated—*Polar Superfine, Mainefold, White Seal, Rumford Enamel and Rumford Litho C1S;* Uncoated—*Engravatone, Carfax, Aquaset Offset, Duplex Label and Oxford Super, English Finish and Antique.*

Now! endless Foil tubing



Now you can have all the regular advantages of foil pouches plus the extra speed and flexibility provided by ENDLESS FOILPAK TUBING. Wound on reels of various widths, it can be easily cut to desired lengths to meet normal or constantly changing requirements. Developed by Clarvan, Foilpak Tubing, after exhaustive tests is now effecting substantial savings in the nation's leading industries.



Clarvan MILWAUKEE PITTSBURGH

Sales Offices In Principal Cities

Convertors and designers of protective packaging

SPEAKING OF *Protection*

"FLAV-O-TAINER"

will later be available in the following Royalflex films:

Selloflex (Cellophane laminated to itself or to other material)

Lumiflex (aluminum foil laminated to other material)

Plioflex (pliofilm laminated to itself or to other material)

Duoflex (moisture-proof coated glassine laminated to itself)

It's disappointing to depend on something for protection and then find you aren't protected after all. That's true with many things, particularly packaging. And that is one good reason why so many manufacturers depend on FLAV-O-TAINER, the patented duplex bag, heat sealed on all seams, *that assures complete protection against air, moisture, grease and odors.*

THOMAS M. ROYAL & COMPANY • *Philadelphia 20*

BOSTON • CHICAGO • SAN FRANCISCO • BEAUMONT • ATLANTA • PITTSBURGH • NEW ORLEANS
DENVER • SEATTLE • NEW YORK • ST. LOUIS • DAYTON • DETROIT • SYRACUSE • BRYN MAWR

At Your Service

TESTED AND PROVEN PACKAGING MATERIALS

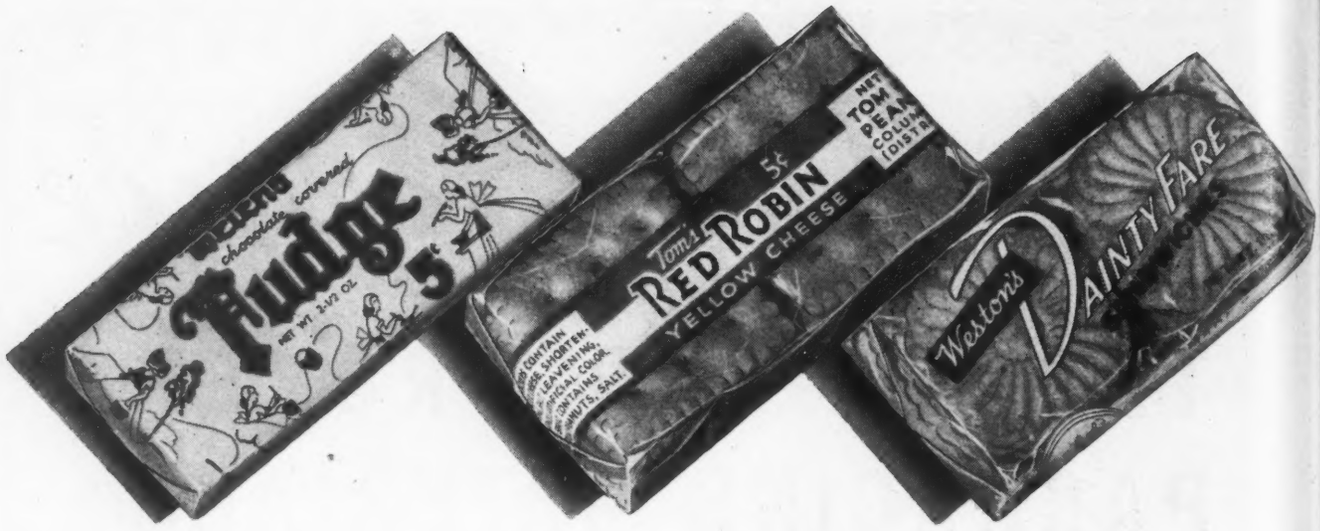
FOR

WAR OR CIVILIAN USES BACKED WITH SCIENTIFIC RESEARCH AND DEVELOPMENT

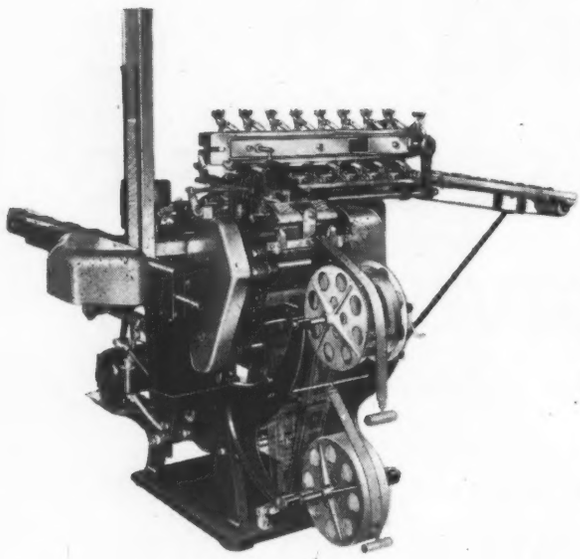
CONVERTORS OF LAMINATED AND COATED METAL FOILS, TRANSPARENT FILMS, FABRICS AND PAPERS

Western Products Inc.

160 ESSEX STREET
NEWARK, OHIO



Fine Packaging . . . for Fine Quality Products



WRAP-O-MATIC PACKAGING EQUIPMENT

For wrapping candy bars, biscuits, and cookies. Wrap-O-Matic is the most popular Wrapping machine in the Confectionery and Bakery field . . . a real tribute to the flawless wrapping by Wrap-O-Matic.

FINE PACKAGING of candy bars, biscuits and cookies, regardless of shape or texture, bespeaking of the *fine* quality within . . . dressed with neat, trim, streamlined appearance that carries extra eye and sales appeal . . . *that's WRAP-O-MATIC.*

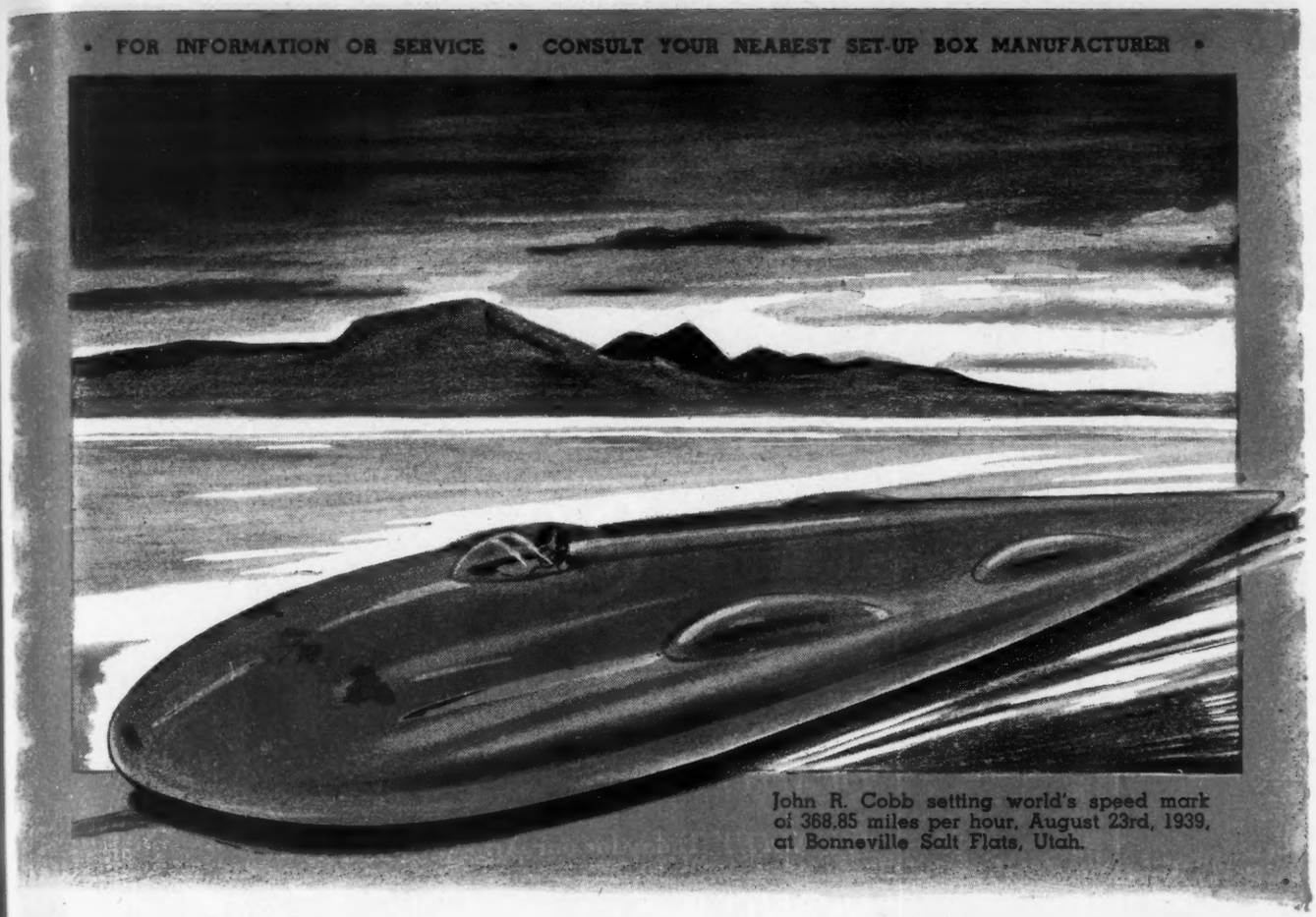
Wrap-O-Matics are economical too . . . they reduce wrapping labor costs as much as 75% and wrapping material costs as much as 35%, plus high speed wrapping up to 120 units per minute. Fragile or irregular shaped items are successfully wrapped as the ingenious Wrap-O-Matic wrapping exerts no pressure on the products.

Plan *now* to streamline your wrapping operations . . . have our engineers survey your packaging department and show you how Wrap-O-Matic can increase your Wrapping production with greatly reduced labor and material costs. Also write for a copy of our illustrated brochure and more details.

WRAP-O-MATIC Lynch DIVISION

Manufacturing Corporation, Defiance, Ohio U. S. A.

• FOR INFORMATION OR SERVICE • CONSULT YOUR NEAREST SET-UP BOX MANUFACTURER •



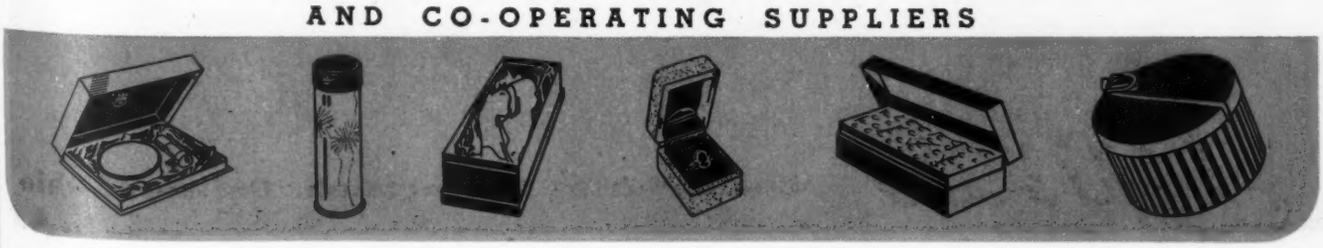
John R. Cobb setting world's speed mark of 368.85 miles per hour, August 23rd, 1939, at Bonneville Salt Flats, Utah.

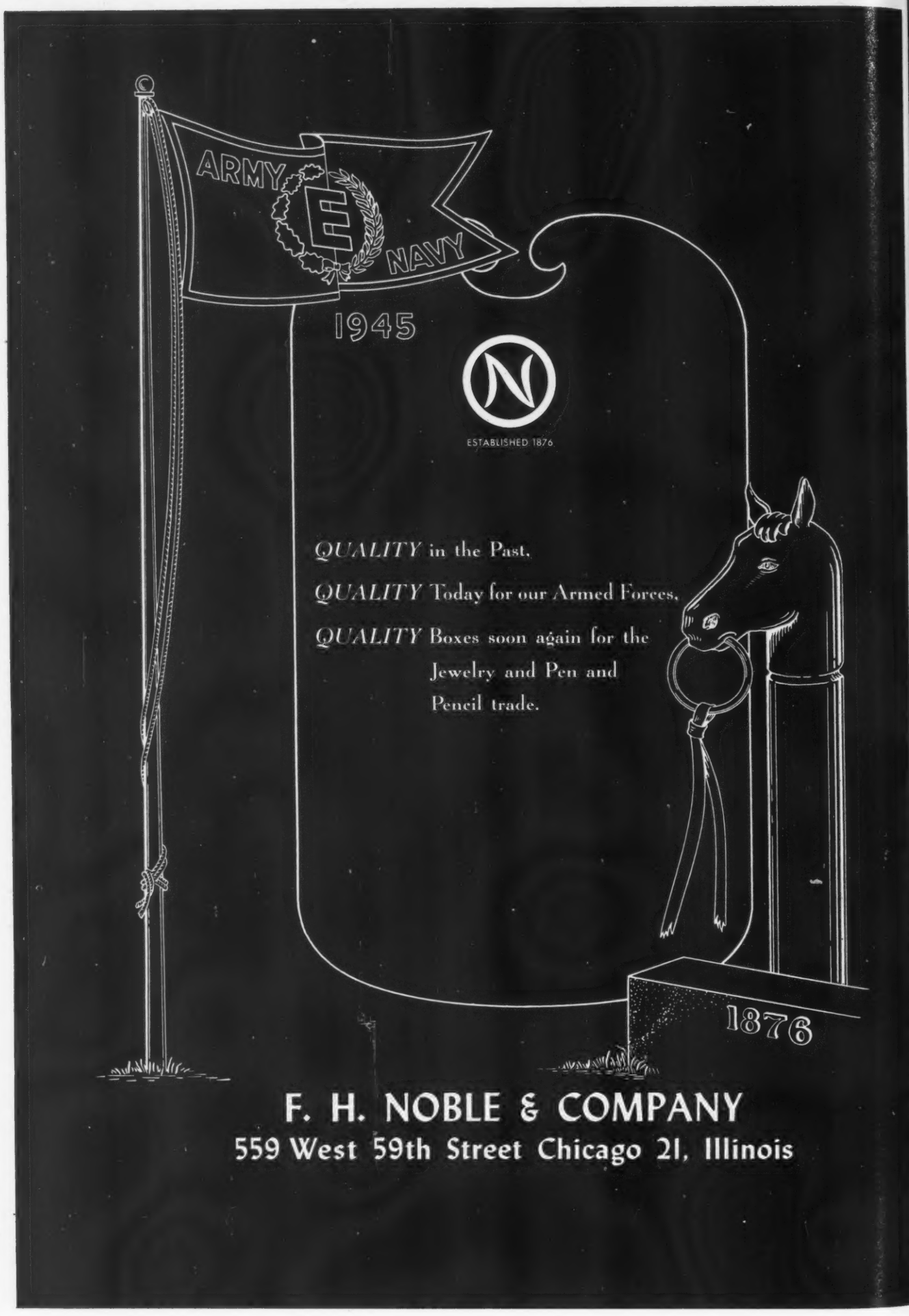
CUSTOM-BUILT *for* SPEED

No other rigid container can give you style, product identification, strength and the protection to your products that the set-up paper box delivers . . . plus speed in packaging, speed in shipping and speed for display use. Besides being a favorite "take-home" package of the buying public, it's tops in dealer preference. Only custom-built set-up paper boxes offer you advantages so completely adaptable to packaging your product, whether it's parts for the car or goggles for the driver.

NATIONAL PAPER BOX MANUFACTURERS *Association*

AND CO-OPERATING SUPPLIERS




ARMY
E
NAVY
1945
N
ESTABLISHED 1876
QUALITY in the Past.
QUALITY Today for our Armed Forces.
QUALITY Boxes soon again for the
Jewelry and Pen and
Pencil trade.
1876
F. H. NOBLE & COMPANY
559 West 59th Street Chicago 21, Illinois

SIGHT SPARKS THE SALE

SELF-SELLING PACKAGES IN

DOBECKMUN

PROCESSED FILMS AND FOILS

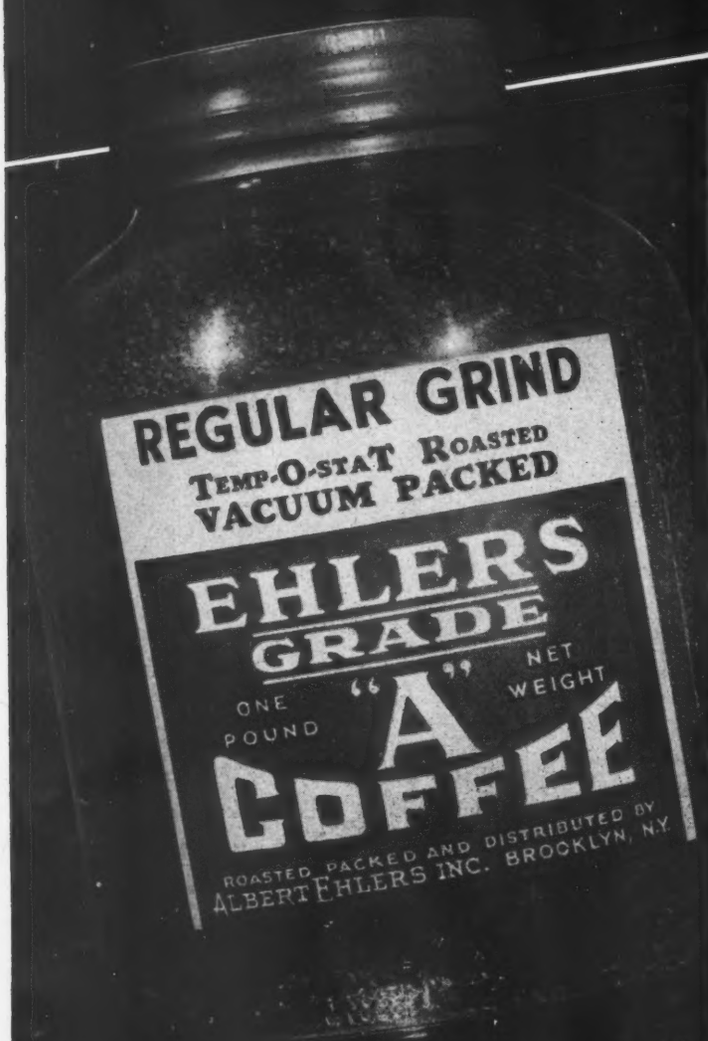
CLEVELAND PLANT

Shoppers must see before they buy. Packaged in transparent film, your product gets quick, clear visibility—with the extra advantage of high eye-appeal obtained through attractive processing in colorful designs by Dobeckmun.

For extra protection, use laminated films or foils. With these, you can have faithful color reproductions of the product itself, instead of transparency. In either case, readable selling copy and instructions help to close the sale that has been stimulated by eye-appeal.

Ask our technical and creative staff for ideas and suggestions that will make every package a salesman. Action now will insure deliveries when our military demands have eased. *The Dobeckmun Company, Cleveland 1, Ohio. Branches at Boston, Chicago, Los Angeles, New York, Philadelphia, San Francisco and Seattle. Representatives everywhere.*

This Coffee Stays Fresh . . . Thanks to Vacuum-Packing and CEL-O-SEAL Bands



WHEN you vacuum-pack a product to seal in freshness and flavor, it's important that the closure stay tight. The roasters of this fine coffee take no chances. They seal the closure with a Du Pont CEL-O-SEAL* cellulose band.

CEL-O-SEAL bands hold closures securely in place. These bands protect the product from outside atmospheric conditions . . . keep out dirt, dust and other foreign matter. They are assurance that the product reaches the consumer free from substitution or adulteration.

CEL-O-SEAL bands can also serve as colorful second labels. They are available in a wide range of distinctive hues, and can be indelibly printed in color combinations with trade mark or sales message. Every fine product deserves the final touch of quality given by CEL-O-SEAL bands.

Today, as you plan your products of tomorrow, consider the advantages of CEL-O-SEAL bands. Write for full information.

*Trade Mark

CEL-O-SEAL bands and WIND-O-BAND* are sold by:

E. I. du Pont de Nemours & Co. (Inc.)
"Cel-O-Seal" Section, Empire State Bldg., New York City 1
Armstrong Cork Co., Glass & Closure Division, Lancaster, Pa.
I. F. Schnier & Co., 683 Bryant St., San Francisco 7, Calif.

DU PONT
CEL-O-SEAL BANDS

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

DU PONT

KIDDER POINTERS

KIDDER THREE POINT PRESS

No. 9.

Observations of trends and indications in packaging . . . noted by the manufacturers of Kidder "3 Point" Presses, Kidder Press Company, Inc., Dover, N. H.

Another packaging angle is involved with the possible spread of "Store to Door on Wheels" units, soon to operate in the San Francisco Bay area under the Associated Food Distributors Inc. Sixty-foot mobile "stores" will go out from district stores to cover residential areas three times weekly . . . eight salesmen with conveyors will deliver bread, butter, eggs, milk, etc. and order items will be shortwaved to the "store-on-wheels" for immediate filling and motorcycle delivery from the "store" which will be located at intersections. Refrigerator, frozen foods, vegetables and grocery shelves will be "store" compartmented . . . items not carried will be delivered on the next trip. A trailer, attached to each "store", will provide for storage, special orders, dry cleaning and laundry. Radio call to the district store will bring replenishment items to the mobile "store".

A solution of polystyrene plastic provides a new water-white and waterproof varnish for covering labels and many other uses. Harold Frediani of Eimer & Amend, New York, is the inventor and you can read the story in POPULAR SCIENCE for June, 1945.

Quick-frozen concentrated orange juice is now available commercially through Frostar Frozen Food Centers. If you're interested, write Carl E. Seaburgh, 81 Mamaroneck Avenue, White Plains, New York.

If the use of color, new inks and printing are some of your immediate problems for postwar packaging, better read the article by Alan Berni, New York package designer, in a special interview in PACKAGING PARADE for June '45. Luminous and transparent inks and the importance of face-lifting jobs on boxes . . . especially for gift packages . . . are considered ably.

Quick-frozen foods by mail may become a postwar commonplace. It's been tried successfully by a subsidiary of La Louisiana Restaurant Inc., which cooked, quick-froze and shipped complete dinners for 14 from New Orleans to Memphis by air, using paper-board containers packed in dry ice. In Memphis, the Creole-cooked dinners were hotel-refrigerated, then heated and served the next day to guests. After large scale deep-freezing equipment is available, distributors may take up the plan.

A summary of field reports from CHEMICAL AND METALLURGICAL ENGINEERING magazine indicates: Packaging is a subject that will demand more thoughtful attention . . . with pressed paper containers taking an important place as metal substitute . . . they being cheaper, lighter and costing less to ship . . . with opportunities for improvement against their fragility making them even more in demand for paints, pigments, varnish, etc.

A recent survey among 14,000 manufacturers showed that about 37% plan to produce new products . . . but much of this will be merely new to the company's previous line, not in a market sense. A minority group show forward thinking and aggressive planning, which will present functional and efficiency changes, often meaning new packaging opportunities and new distribution setups, summarized Miss Helen Davies of New York City, market and research consultant and industrial designer, before a "Packaging" meeting of the Advertising Club of Boston. The packaged food, drug and cosmetic industries are teeming with opportunities for new and improved products . . . and packaging for brown sugar which will keep it usable is a "must", she says. Individuality and smartness in advertising, packaging and merchandising are needs for the cosmetics field. Techniques in both product and consumer research should be sharpened to anticipate consumer needs and wants for a changing world.

Perforated-end envelopes save time, prevent tearing or cutting important correspondence and checks, says the inventor, Henry W. Stan of Chicago. Already-printed standard envelopes can be perforated, says Artist Stan.

KIDDER PRESS COMPANY, INC., ***Printing Machinery,*** **Dover, N. H.**

WRAPPER ACHIEVEMENT OF THE MONTH
There's a clear color and brilliance, combined with perfect register about the wrappers printed by the San-I-Film process which enables Saniwax Paper Company of Kalamazoo, Michigan, to deliver wrappers with no odor, cert-a-seal, extra pliability, brilliant colors and no offset. An excellent example is this wrapper for Holsum Bread for Cotton's Holsum Bakers of Louisiana intelligently designed and printed in gleaming yellow, red and blue. The wheat motif is carried out in white on a yellow background, with a centered shield of bright navy blue narrow-banded in yellow and white — identification being assured with the pair of birds printed in red, yellow and blue. The San-I-Film printing process, utilizing instant-drying odorless ink and leaving the paper soft and pliable, adds a distinct advantage to this bread wrapper for which Kidder salutes
SANIWAX PAPER COMPANY
KALAMAZOO 11, MICHIGAN
Manufacturers of Waxed Paper (Printed and Plain)
SANIWAX
Enriched
"TO MEET NEW U.S. STANDARDS"
HOLSUM BREAD
It's Extra Fresh
COTTON'S HOLSUM BAKERS

KIDDER BRINGS "KNOW-HOW" TO CONVERTERS' NEEDS

With three types of wrapper presses

Kidder calls its line "3 Point" because it represents not only the three fundamentals of quality printing—control over the paper, proper distribution of ink, accuracy of the impression . . . but further, the three *types* of presses that will be manufactured by Kidder.

The Kidder "3 Point" multi-color letter presses used so widely in the converting industry for many years were augmented by the Kidder "Aniliners", successfully sold just before the war . . . and now include the narrow "Celloprinter". The newest press will be the unit-type gravure line for cellophane, foil, pliofilm, etc., giving the advantage that individual units may be purchased as customers' capacity demands.

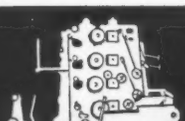
A Kidder engineer is available for consultation on any of these presses — or on Kidder's improved line of high-speed slitters and rewinders (up to 115″). Kidder Press Co., Inc., Printing Machinery, Dover, New Hampshire.

CONTROL OVER THE PAPER
PROPER DISTRIBUTION OF INK
ACCURACY OF THE IMPRESSION

KIDDER

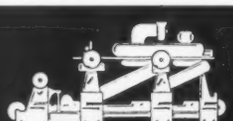
Manufacturer of "3 Point" Presses—so-called because they fulfill the three major requirements for perfect printing.

KIDDER
THREE POINT
PRESS



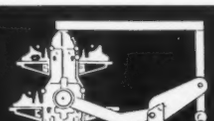
MULTI-COLOR LETTER PRESSES

for waxed paper, box wrappers, etc., rewound or sheet-delivered — up to 72 inches.



MULTI-COLOR "UNITYPE" GRAVURE PRESSES

for cellophane, foil, pliofilm, etc., — up to 36 inches.



"ANILINER" and "CELLOPRINTER" MULTI-COLOR PRESSES

for decorative papers, cellophane, glassine, etc., — up to 65 inches.

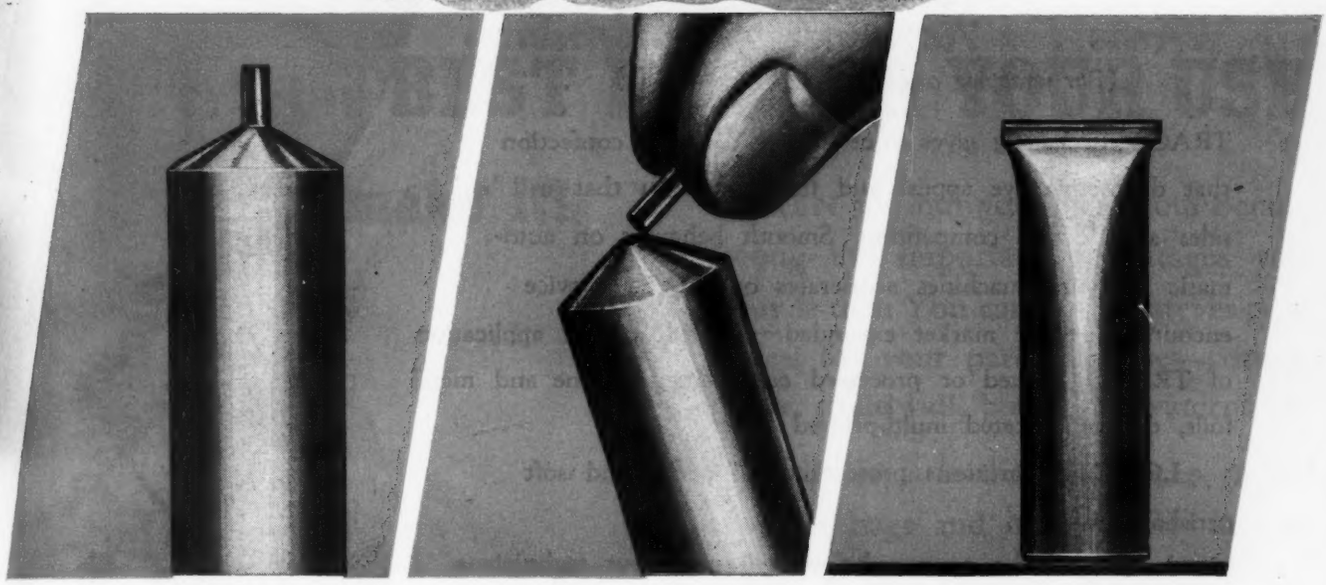
SLITTERS AND REWINDERS

for paper mills, finishing rooms and small-roll, high-speed slitting — up to 115 inches.

WIRZ *Mono-Pak*

Reg. U. S. Pat. Off.

SINGLE-USE TUBE — IDEAL SAMPLING AND DISPENSING UNIT FOR YOUR PEACE-TIME PRODUCTS

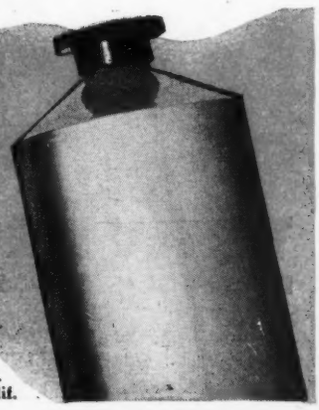


Easy to open — easy to use — safeguards flavor, consistency — assures exact dosage

Individual portions of coffee, dehydrated soups, juices, pastes, hydroscopic powders and granular products, ointments, and toilef preparations will be more acceptable to your Peace-time markets in sanitary, convenient WIRZ Mono-Pak single-use collapsible metal tubes. Hermetically sealed, non-refillable, economical, WIRZ Mono-Pak Tube preserves your product's original freshness, purity, consistency, flavor, or scent. Prevents substitution, dispenses exact quantity. Product reaches your customer in perfect condition. Easy to open, easy to use, WIRZ Mono-Pak Tube can be attractively decorated, but requires no labeling or capping. This unusual merchandising tube for liquids, pastes and powders should be in your Peace-time packaging and sampling plans.

Much of our production is required for our Armed Forces, but we shall be glad to plan with you. WIRZ Tubes are practical in different sizes for a variety of products . . . with suitable linings to combat corrosion and seepage count on WIRZ Tubes to protect your product, your brand name and your markets.

Give an extra push now — buy more War Bonds



A. H. WIRZ, INC.

Fourth & Cole Sts.
CHESTER, PA.

Established 1836

COLLAPSIBLE METAL TUBES • LACQUER LININGS • WAX LININGS • WESTITE CLOSURES • METAL SPRINKLER TOPS • HOUSEHOLD CAN SPOUTS • COMPRESSION MOLDING

New York 17, N. Y. 30 E. 42nd St. | Chicago 4, Ill. 80 E. Jackson Blvd. | Memphis 2, Tenn. Wurzburg Bros. | Havana, Cuba Roberto Ortiz Planos

A. G. Spilker { Los Angeles 14, Calif., 1709 W. 8th St. (Exposition 0178)—Also Danville, Calif.

Roll out Production! Roll in the Sales!

With TRAVER Multi-printed Wraps for Automatic Equipment

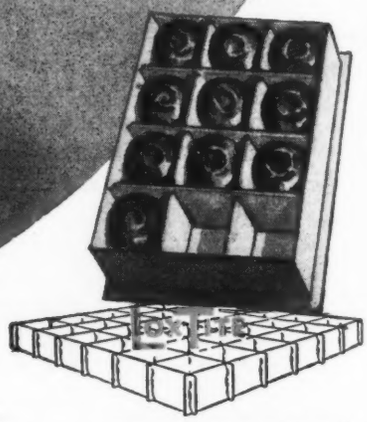
(Bar wrapping and Bag making machinery)

TRACO packaging gives your candy, food or confection that distinctive eye appeal and full protection that will 'up' sales and 'down' competition. Smooth behavior on automatic wrapping machines accelerates output. Self-service encouraged—your market expanded—through proper application of TRACO printed or processed cellophane, glassine and metal foils, or prefabricated multi-printed bags.

LOXTITE Partitions protect coated goods and soft perishable candies.

A card or the coupon below will place our technicians at your command.

Your Package Design Roll-Printed IN COLOR



TRAVER CORPORATION

BOX PARTITION DIVISION
404 N. Sacramento Blvd., Chicago 12

Dept. MP95 • 358-368 West Ontario Street • Chicago 10, Illinois

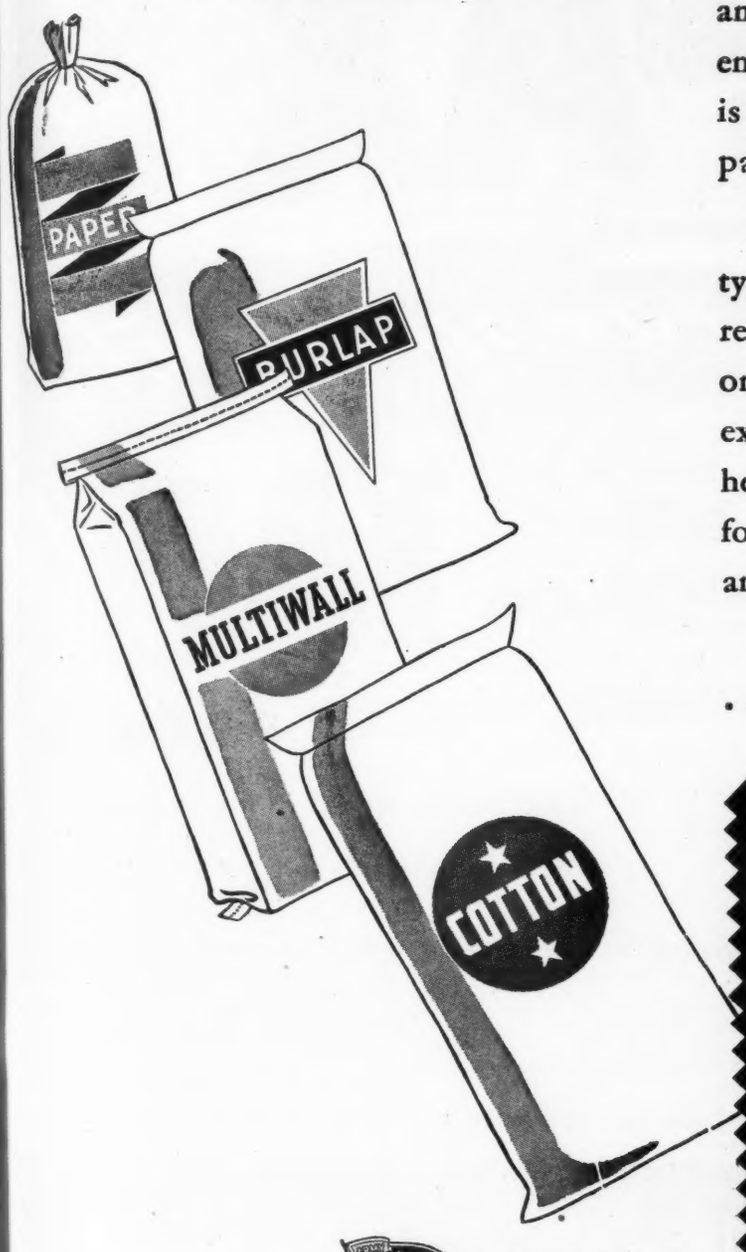
CLIP AND ATTACH TO YOUR LETTERHEAD AND MAIL

☐ Please send samples of roll-printed wraps ☐ Please have technician call for conference

*Name*_____ *Title*_____

Whatever's the BEST BAG FOR YOUR USE

. . . we make it!



WHEN you buy your bags from Bemis, among the important advantages you enjoy is this: You can buy whatever type is best for your particular use—cotton, paper, multiwall, burlap or waterproof.

Bemis is a leading producer of *all* types of bags and consequently has no reason to high-pressure you toward any one type. We have no favorites. If our experienced packaging specialists can help you to determine which is the best for your use, you may be sure that their analysis and advice will be unbiased.

Whatever's the *best bag for your use* . . . we make it.

East Pepperell, Mass.

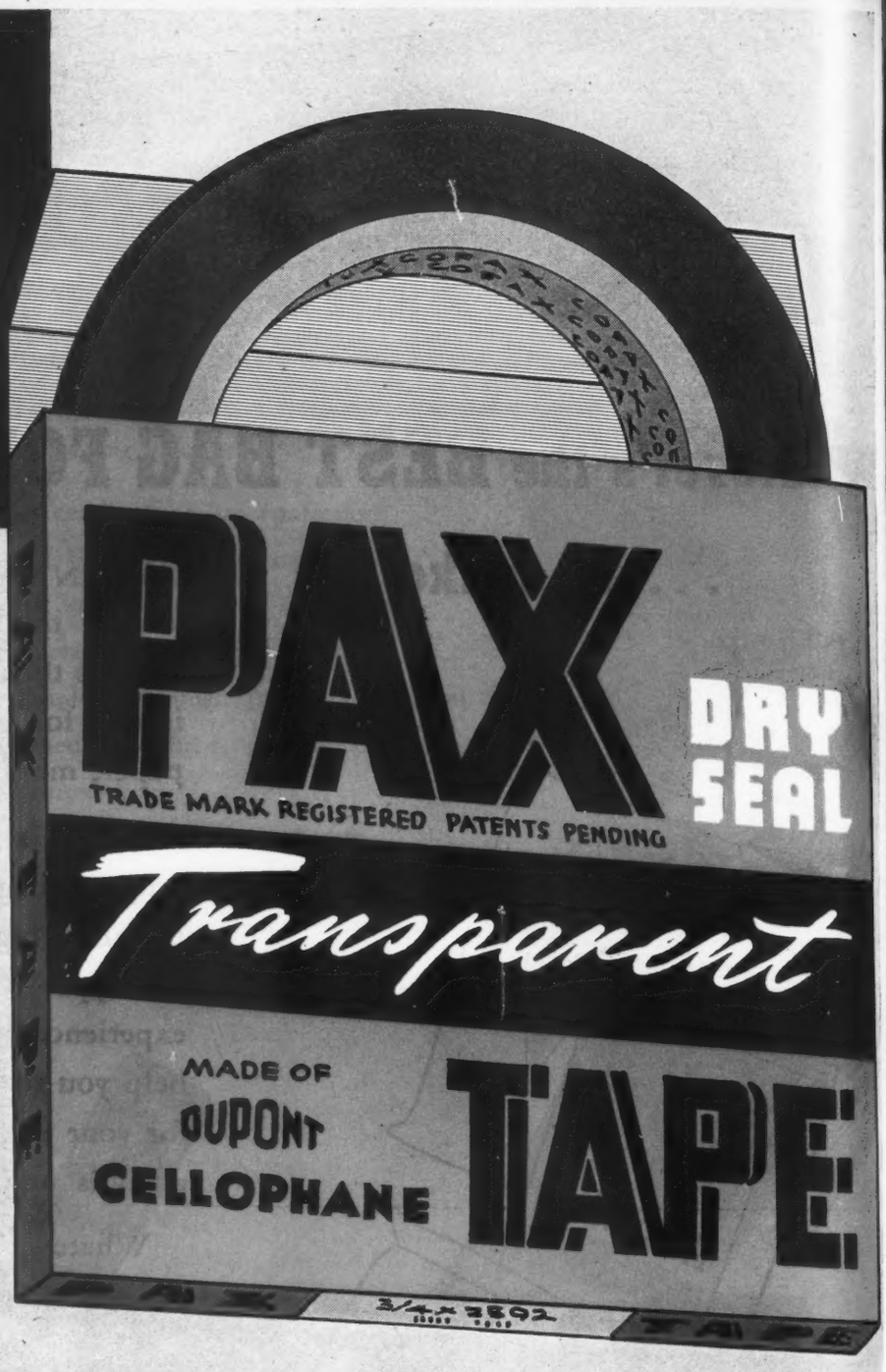
BEMIS BAGS

BEMIS BRO. BAG CO.

OFFICES • Baltimore • Boston • Brooklyn • Buffalo • Charlotte • Chicago • Denver • Detroit • East Pepperell • Houston • Indianapolis • Kansas City • Los Angeles • Louisville • Memphis • Minneapolis • Mobile • New Orleans • New York City • Norfolk • Oklahoma City • Omaha • Peoria • St. Helens, Ore. • Salina • Salt Lake City • San Francisco • Seattle • Wichita • Wilmington, Calif.

BETTER BAGS SINCE 1858

new and BETTER



Patents Applied for

The new transparent pressure sensitive tape of a million uses in industry and packaging.

PAX TAPE is a superior product made according to a new formula and by a new process.

- **Edges always remain dry**
- **Rolls never telescope**
- **Need not be stored in metal boxes**
- **Keeps indefinitely**

PAX TAPE is made on cellophane for average use; on acetate for waterproofness and insulation.

Available in large range of colors.

PAX TAPE meets Government specifications.

Ask for free sample roll of Pax Tape for experimental purposes and tests.

A PRODUCT OF
THE COFAX CORPORATION
NEW YORK OFFICE
50 EAST 42ND STREET, NEW YORK 17, N. Y.

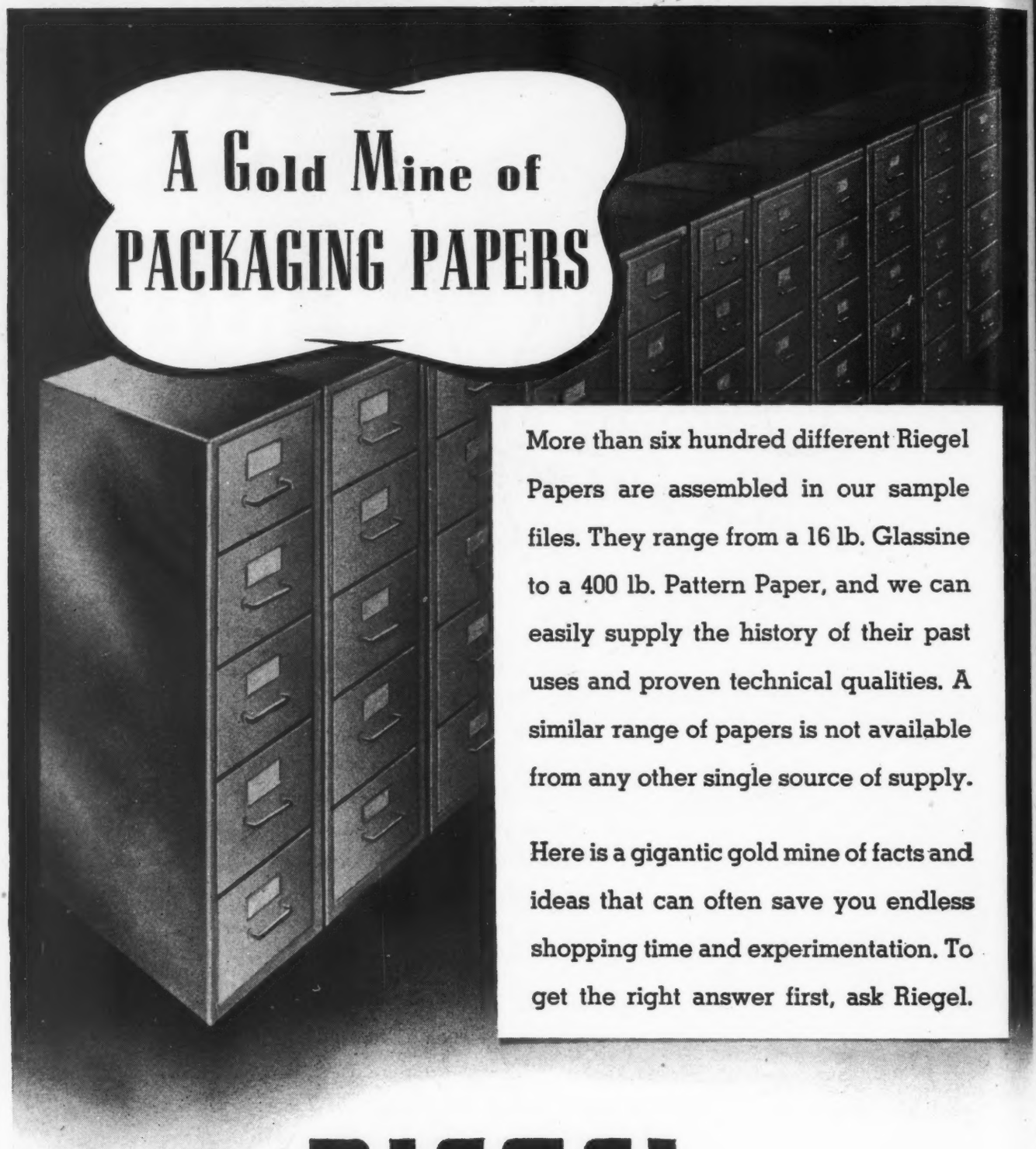
. . . m-m-m-REAL BOSTON BAKED BEANS

Early New England Housewives took great pride in their culinary accomplishments. Not content with making "just another pot of beans," they persisted in exploring various methods of cooking and seasoning baked beans to give that savory, taste tempting flavor. Today, real Boston Baked Beans are still made from recipes developed in colonial New England. This "know how" assures consistent results and inimitable flavor. It has established Genuine Boston Baked Beans as a definite standard of comparison.

Carr-Lowrey glass containers are something very special, too. Our aim is not to make the most . . . but the very best glass containers available to modern packagers. Steadfast adherence to this idea for more than half a century has made Carr-Lowrey containers first choice among buyers who are quality conscious.

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD. • *New York Office:* 500 Fifth Avenue • *Chicago Office:* 1502 Merchandise Mart



A Gold Mine of PACKAGING PAPERS

More than six hundred different Riegel Papers are assembled in our sample files. They range from a 16 lb. Glassine to a 400 lb. Pattern Paper, and we can easily supply the history of their past uses and proven technical qualities. A similar range of papers is not available from any other single source of supply.

Here is a gigantic gold mine of facts and ideas that can often save you endless shopping time and experimentation. To get the right answer first, ask Riegel.

600 RIEGEL PAPERS

The Riegel sample files contain more than 600 different grades—a gold mine for the paper buyer who wants the best possible combination of protection, production efficiency and economy, to meet his own individual requirements. We make glassine, greaseproof, sulphite, wet-strength — printed, embossed, resin-impregnated, laminated, oiled, lacquer-coated, waxed, dry-waxed — packaging papers, converting papers, printing papers and industrial papers in endless variety.

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RESPONSIBILITY*

**Answerable, legally or morally, for the discharge of a duty, trust, service or other obligation.* Funk & Wagnalls

A CODE WE HAVE RIGIDLY ADHERED TO AS PACKAGING AND DISPLAY SPECIALISTS FOR FIFTY YEARS.

BROOKS & PORTER, INC.

3014 HUDSON STREET . . . . . NEW YORK, N. Y.

Of Cough Drops and Candy

For your small penny packages and sample packages, this modern duplex cartoner answers all your requirements for high-speed production, since it operates at a speed of 150 complete packages per minute.

The machine is a duplex type, there being twin carton supply magazines, twin tuckers and twin filling chutes which fill two cartons simultaneously. The filling can be done by count or volume, depending on the product, accurate results being obtained either way.

The machine can be equipped for cartoning only, or for cartoning and lining, or for cartoning and wrapping, or a complete job of cartoning, lining and wrapping. When the machine is equipped with lining and wrapping units, the liners and wrappers are automatically cut from a roll and inserted into the carton.

The illustration above shows MODEL C-21-W which cartons small cough drop and candy packages and wraps the completed carton in cellophane at a speed of 150 packages per minute.

Cartoned and wrapped on the Model C-21-W at the rate of 150 packages per minute.

Send U.S. details on any of your packaging problems —we have the machines and the engineering background to help solve them.

US *Automatic Box Machinery Co. Inc.*

Owning and Operating

NATIONAL PACKAGING MACHINERY CO. • CARTONING MACHINERY CORP.

18 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

Branch Offices: NEW YORK CLEVELAND CHICAGO
LOS ANGELES (KRUGH EQUIPMENT & SUPPLY CO.)

Seals take serious thought!

You have to think of cost. Not just price per thousand but Cost On Bottle, which includes cost of applying closures.

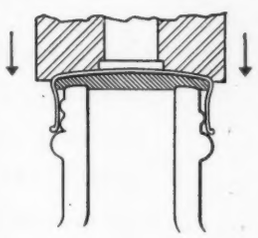
You have to think of appearance, because closures ought to help sell the package . . . ought to be attractive.

But you have to think, above all, of how well your product is sealed. That's the main purpose of a closure. And that's where Alseco Rolled-On Seals excel.

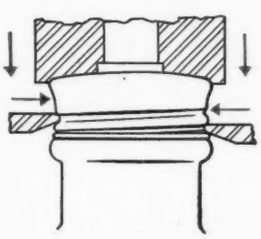
Every single R-O Seal is tailored to fit exactly and seal securely the particular container on which it goes. That means you get the very minimum of leakers and breathers. Fewer returns for credit. Less damage in transit.

Alseco R-O Seals are applied by automatic machines at speeds up to 240 per minute. An economical, trouble-free operation. Get all the facts about them now.

WHY ALSECO R-O SEALS SEAL BETTER



1. Plain-skirted Alseco Seal is seated squarely on container. Under stationary top pressure, container lip is embedded in cap liner evenly all around, effecting the seal.



2. While the seal is thus held under pressure, threads are Rolled-On to conform exactly with threads on container. Each seal is tailormade, fits perfectly, seals tighter.

ALSECO

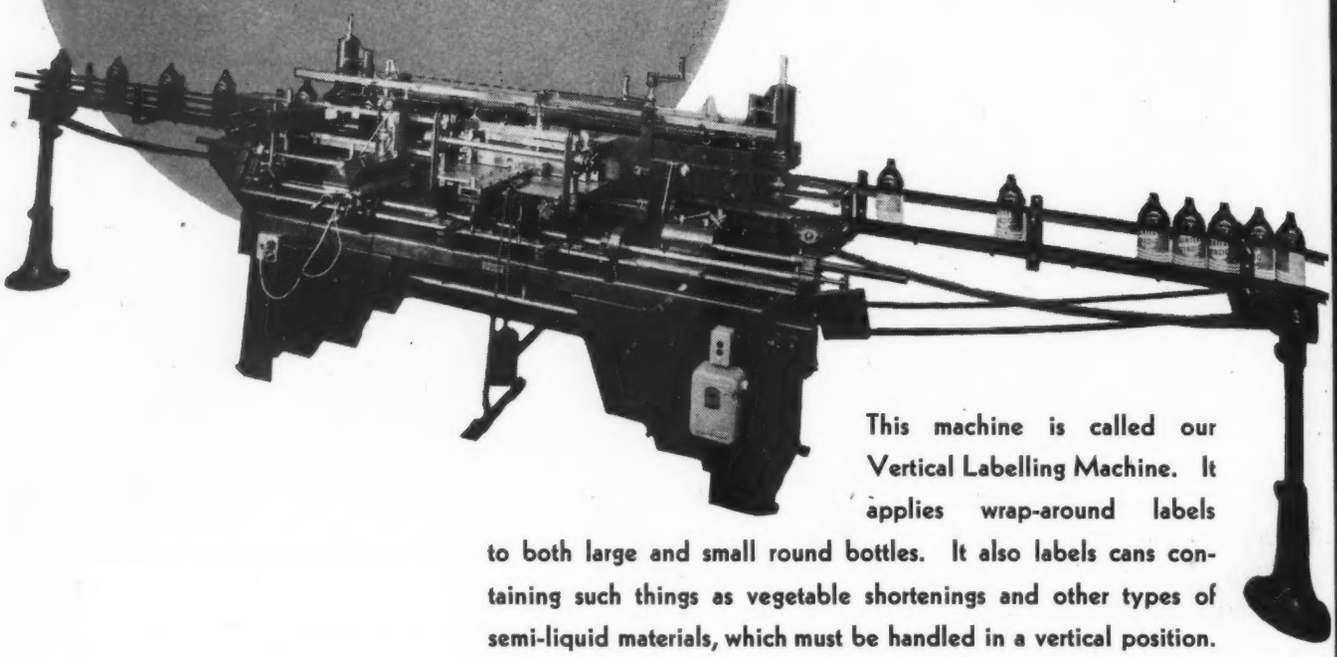
TAILOR-MADE OF ALCOA ALUMINUM

SEALS AND SEALING MACHINES

ALUMINUM SEAL COMPANY · 1345 THIRD AVENUE · NEW KENSINGTON, PENNSYLVANIA

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

THE LABELS GO 'ROUND AND 'ROUND



This machine is called our Vertical Labelling Machine. It applies wrap-around labels to both large and small round bottles. It also labels cans containing such things as vegetable shortenings and other types of semi-liquid materials, which must be handled in a vertical position.

This is another special packaging machine produced by STANDARD-KNAPP to meet the high-speed, long-life, low-unit-cost operating requirements of the largest packagers. Other STANDARD-KNAPP machines, for case-packing and case-sealing, are top standard in all industries.

STANDARD-KNAPP engineers and builds all types of specialized packaging equipment for every type of automatic operation. Consult us on your production requirements.

STANDARD-KNAPP CORP.

MANUFACTURERS OF CASE SEALING, CASE PACKAGING AND CAN LABELING MACHINES
FACTORY and GENERAL OFFICES—PORTLAND, CONNECTICUT

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To wrap, protect and seal,
Use Texcel Tape-it's sturdy, neat,
And packed with sales appeal.

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PRODUCT PROTECTION

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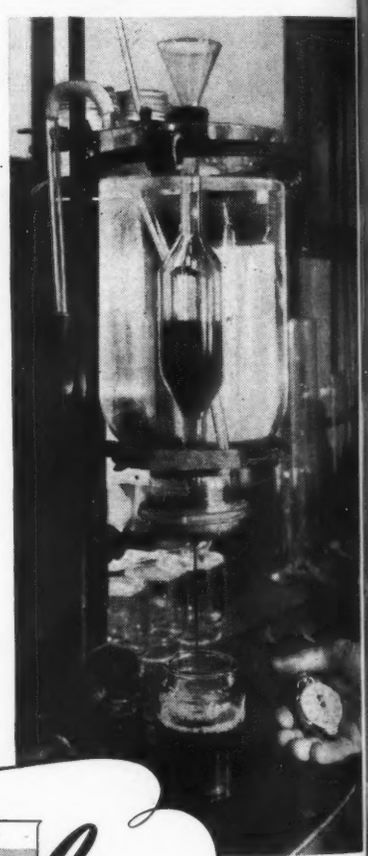
PAISLEY PACKAGING ADHESIVES



The experience that PAISLEY has gained in supplying waterproof and special adhesives for rigid Army and Navy packaging and fabricating specifications has enabled us to produce civilian packaging adhesives with new high standards of quality and performance.

No one adhesive group can honestly be the answer to all packaging adhesive operations. For this reason, PAISLEY works with *all* adhesive raw materials, such as:

Starch Bases....Dextrines, Flours (Tapioca, Corn, Potato)
Animal Bases...Hide, Bone, Gelatine, Fish.
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Resin Bases....All types of synthetics (emulsions and solutions) and hot melt thermoplastic coatings, laminants.
Rubber Bases...Synthetic rubbers, reclaimed rubbers, latex.
Asphalt Bases..Emulsions, specially compounded.
Wax Bases.....Resin-wax specialties, sealing compounds.
Gum Bases.....Natural and Synthetic.

Thousands of adhesive formulae have been compounded from these main adhesive bases, each one having special qualities that suit it to a specific packaging, labeling or sealing operation. They must be intelligently selected with full knowledge of their limitations as well as their many virtues. For this reason PAISLEY SCIENTIFIC Adhesive Service was formed to assist the packaging adhesive user in obtaining the one best, correct adhesive to meet the individual operation under study.

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PAISLEY PRODUCTS INCORPORATED

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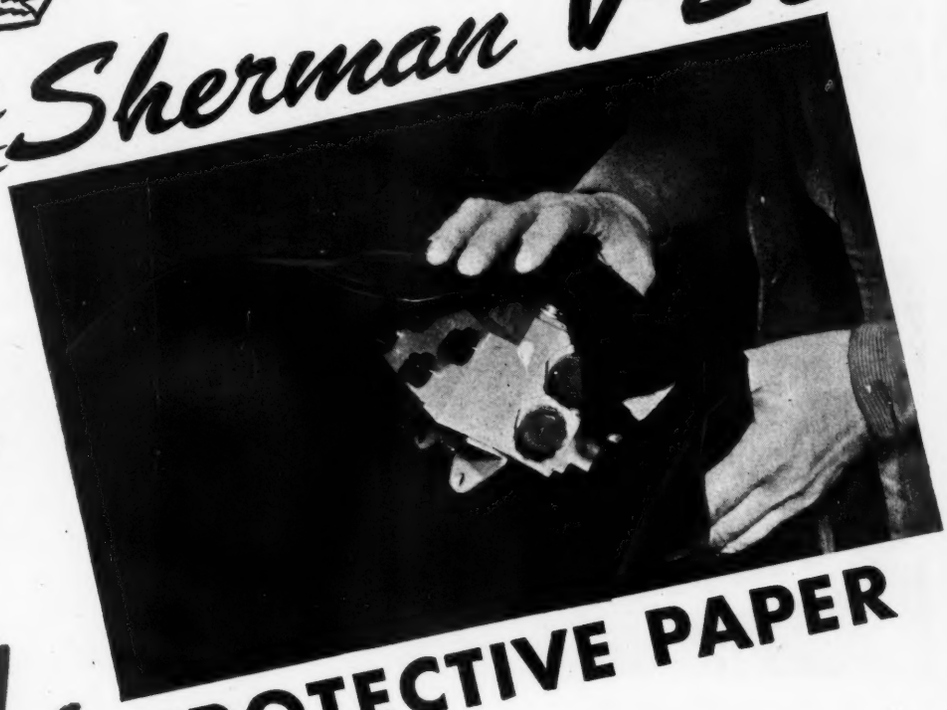
SOMETHING TO SHOUT ABOUT!

Sherman V-28



THE A+ PROTECTIVE PAPER

Ask any schoolboy how an A+ paper rates—he will tell you it's tops! Ask any user how Sherman V-28 rates—he will tell you that it, too, is tops, with these plus values:

☆ Surpasses specifications for Grade A papers with the high strength required for the Type II group. Tests over 1800 seconds on turpentine penetration—over twice the government minimum.

☆ A special, inhibitor treatment makes V-28 more than non-corrosive—it's anti-corrosive!

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Something, indeed, to shout about—for the A+ qualities of Sherman V-28 give safer, longer lasting protection!

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Sherman protective products include many types, for a great range of packaging needs:

Cushioning products for the safer packaging of every breakable product.

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Let us send you free trial samples to meet your needs, together with the valuable photographic manual on Speed-Packing. It's FREE—check the coupon and mail today!

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Newton Upper Falls 64, Mass.

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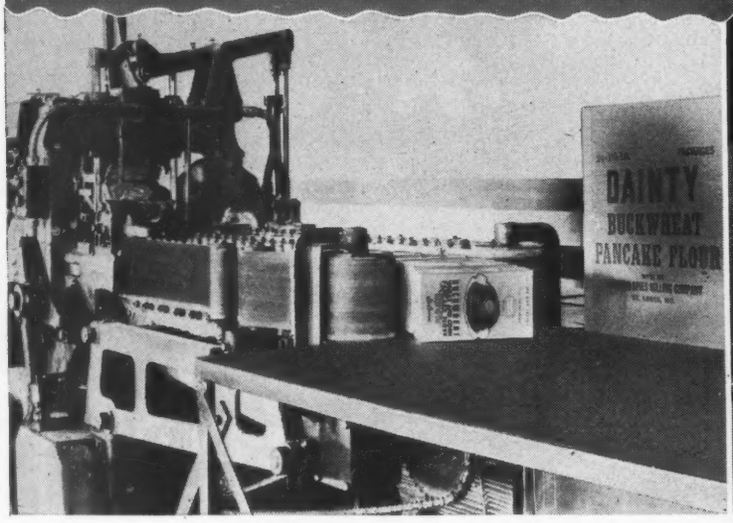

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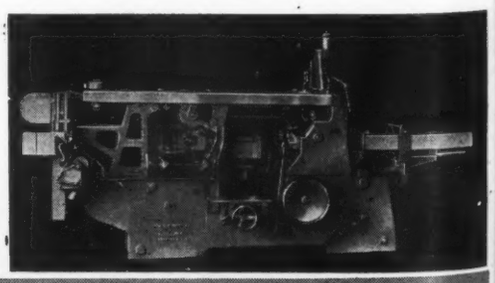

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Add Plastin's unusual thermal characteristics, high strength, and complete moisture-vapor resistance and you will readily understand why it is hailed as a great victory in the battle against corrosion.

To learn more about Plastin, which surpasses all Type I barrier requirements for maximum load limits under Method II packaging, ask for "An Introduction to Plastin". This file-size folder contains a description and small samples.

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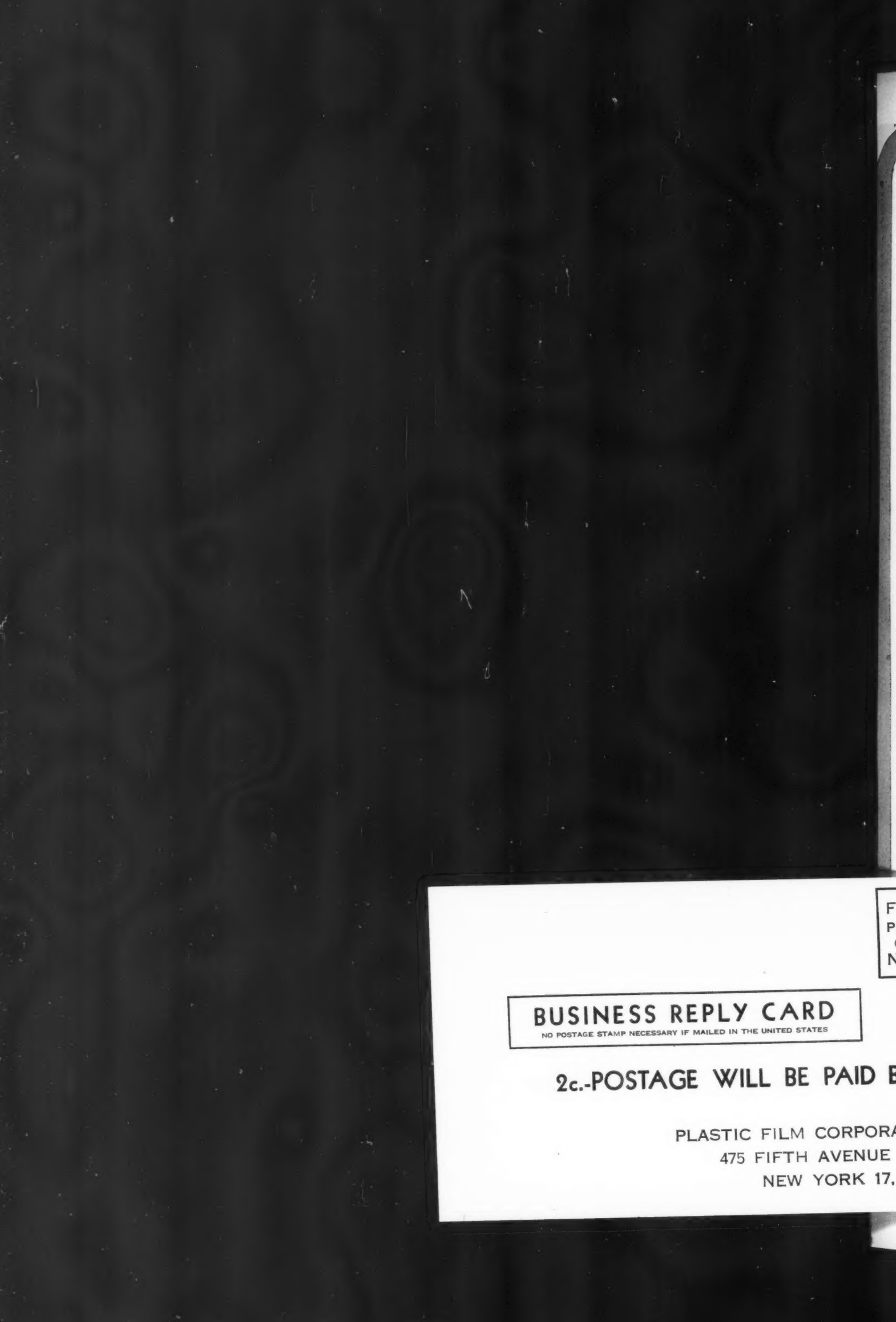

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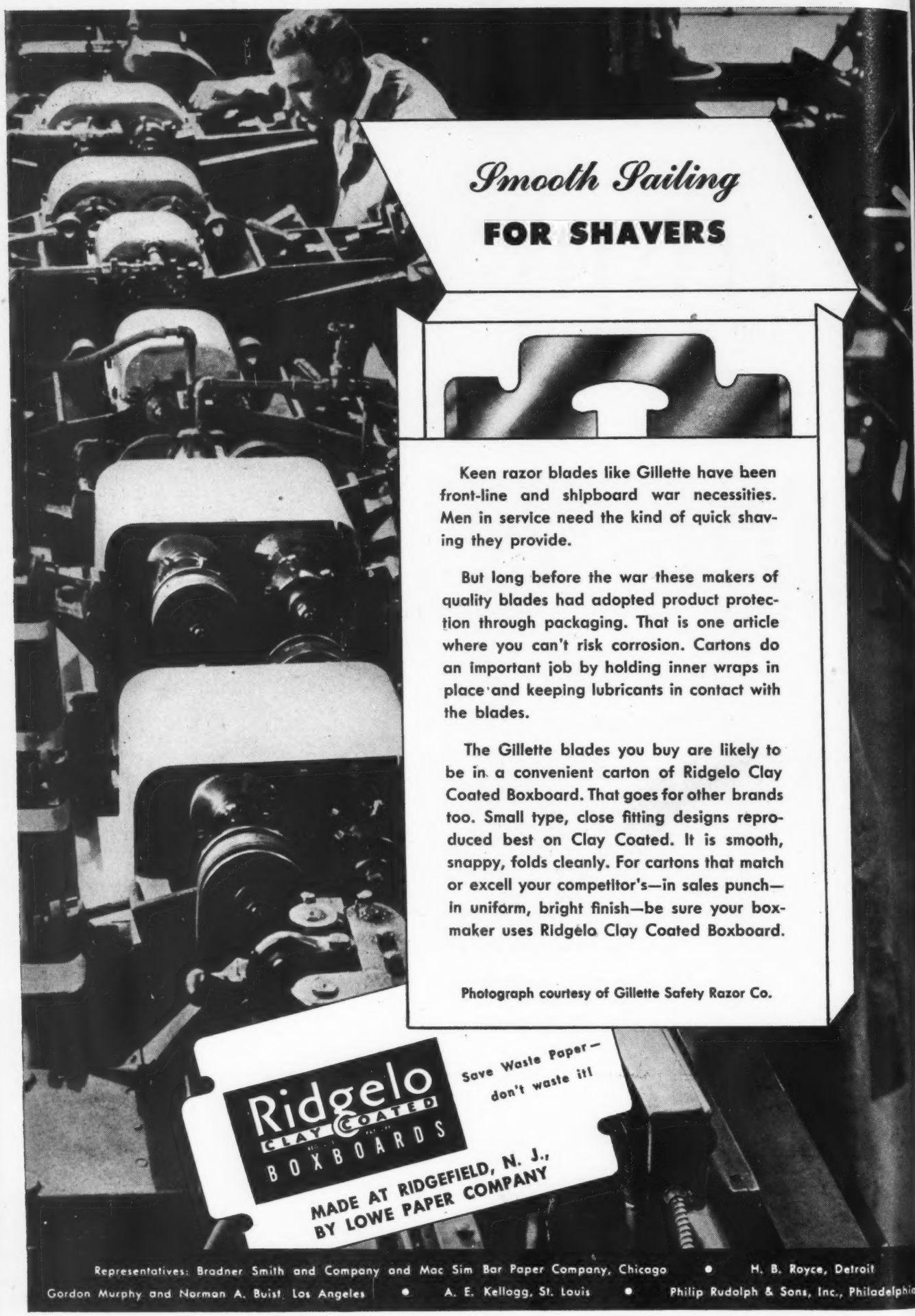

Smooth Sailing
FOR SHAVERS

Keen razor blades like Gillette have been front-line and shipboard war necessities. Men in service need the kind of quick shaving they provide.

But long before the war these makers of quality blades had adopted product protection through packaging. That is one article where you can't risk corrosion. Cartons do an important job by holding inner wraps in place and keeping lubricants in contact with the blades.

The Gillette blades you buy are likely to be in a convenient carton of Ridgelo Clay Coated Boxboard. That goes for other brands too. Small type, close fitting designs reproduced best on Clay Coated. It is smooth, snappy, folds cleanly. For cartons that match or excell your competitor's—in sales punch—in uniform, bright finish—be sure your boxmaker uses Ridgelo Clay Coated Boxboard.

Photograph courtesy of Gillette Safety Razor Co.

Ridgelo CLAY COATED BOXBOARDS

Save Waste Paper—don't waste it!

MADE AT RIDGEFIELD, N. J., BY LOWE PAPER COMPANY

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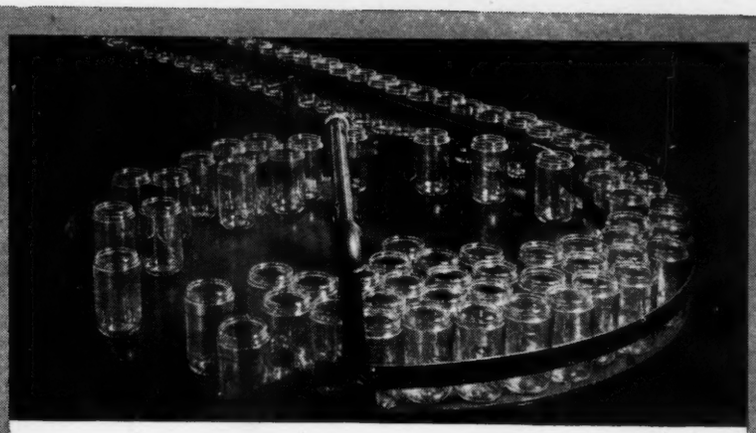
3 WAYS "EYE-DEAS" WORK FOR YOU



A Face Lift for an Unscrambler—Packing-wise eyes will note how the unscrambler pictured here originally designed to handle other containers has been modified by adding a spring guide and plow point so that it swiftly takes the glass jars from a random position and gently marches them away in single file. We do not make packing line machinery but our knowledge of packing operations often enables us to suggest practical improvements in packing methods.

300 Dozen in Glass Jars Per Week: The Penn Fruit Company store at 69th and Chestnut Streets, Philadelphia, stock many complete lines of baby foods in a special department. Here a mass display of Beechnut baby foods in glass containers by eye-appeal and brand acceptance sells a normal volume of 300 dozen jars a week. That is turning buying impulse into "impulse" buying on a big scale. It is another example of what glass can do to help the sales of brands of foods.

How Buying Impulses Become Impulse Buying—Duraglas Container Advertising makes millions of house-to-house calls through this advertisement appearing in the September 8th issues of Saturday Evening Post and Collier's, and the September Parents' magazines. Our advertisements, such as this, start many buying impulses towards all glassed foods in your store . . . educate thousands of housewives to "shop by sight" . . . give them "eye-deas," that make cash registers ring.

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CONTAINERS
Preserve, Protect and SELL BY SIGHT

No "Annie Oakley's"

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This includes several thousand new subscribers who have been waiting with patient loyalty for subscriptions for as long as 2 years. Their names are on the roster with the end of the WPB paper restrictions.

At $5 per reader, per year, Modern Plastics subscribers are annually investing more than seventy thousand dollars of their own money—in return for which they seek plastics guidance from those who are qualified to publish it.

This ever-increasing interest in the plastics industry, as well as this demonstration of reader-confidence in the ability of Modern Plastics to editorially deliver "value for value received", are very significant, advertising-wise.

Modern Plastics is the acknowledged meeting place of plastic minds—and where so many minds meet regularly each month, the opportunities for business are good!

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ABC MEMBER AUDIT BUREAU OF CIRCULATIONS

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TIMES ARE CHANGING *Fast*

MANY things, including some outstanding post-war packages, have been outmoded by recent improvements in materials and methods.

If your packaging has not been re-examined since Pearl Harbor, let OLD DOMINION'S engineering and creative staffs make recommendations to modernize and revitalize it.

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Call On

OLD DOMINION BOX COMPANY

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HOW TO KEEP A MILITARY SECRET SAFE!

The Texlock - cushioned inner container is placed in a steel drum and the lid sealed with a Spongex* Gasket.

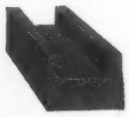
Safe and snug—it takes the shocks of transportation.

Texlock packaging with the sealed container resists all climatic conditions.

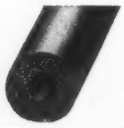
Many an intricate and fragile mechanism – secret and vital to military use – is now packaged and shipped to desert, jungle or arctic destination as matter-of-factly as any shipment of canned goods. Efficient, constant protection against shocks of travel and varying climatic hazards is assured by Texlock* – the modern, pre-tailored packaging material.

Texlock – rubberized hair or bonded fibre – is lastingly resilient. It is unaffected by moisture, heat or cold – will not become brittle, bunch up or shift about. It can be pre-tailored to closely cradle any shape, size or weight of article and to fit into any case, carton or container. It may be used repeatedly for shipping new, or returning worn or damaged parts or assemblies.

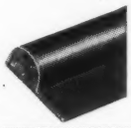
The idea illustrated here – plus a host of other Texlock uses for cushioning, packing and space-filling—may be the answer to your packaging problems, wartime or peacetime, domestic or export. Write for samples, describing your specific problem. Sponge Rubber Products Co., 213 Derby Place, Shelton, Conn. Plants in Derby and Shelton, Conn. Sales Offices: New York, Chicago, Washington, Detroit.



Full and half-round cord or tubing and molded strips in various shapes for any sealing or gasketing job.

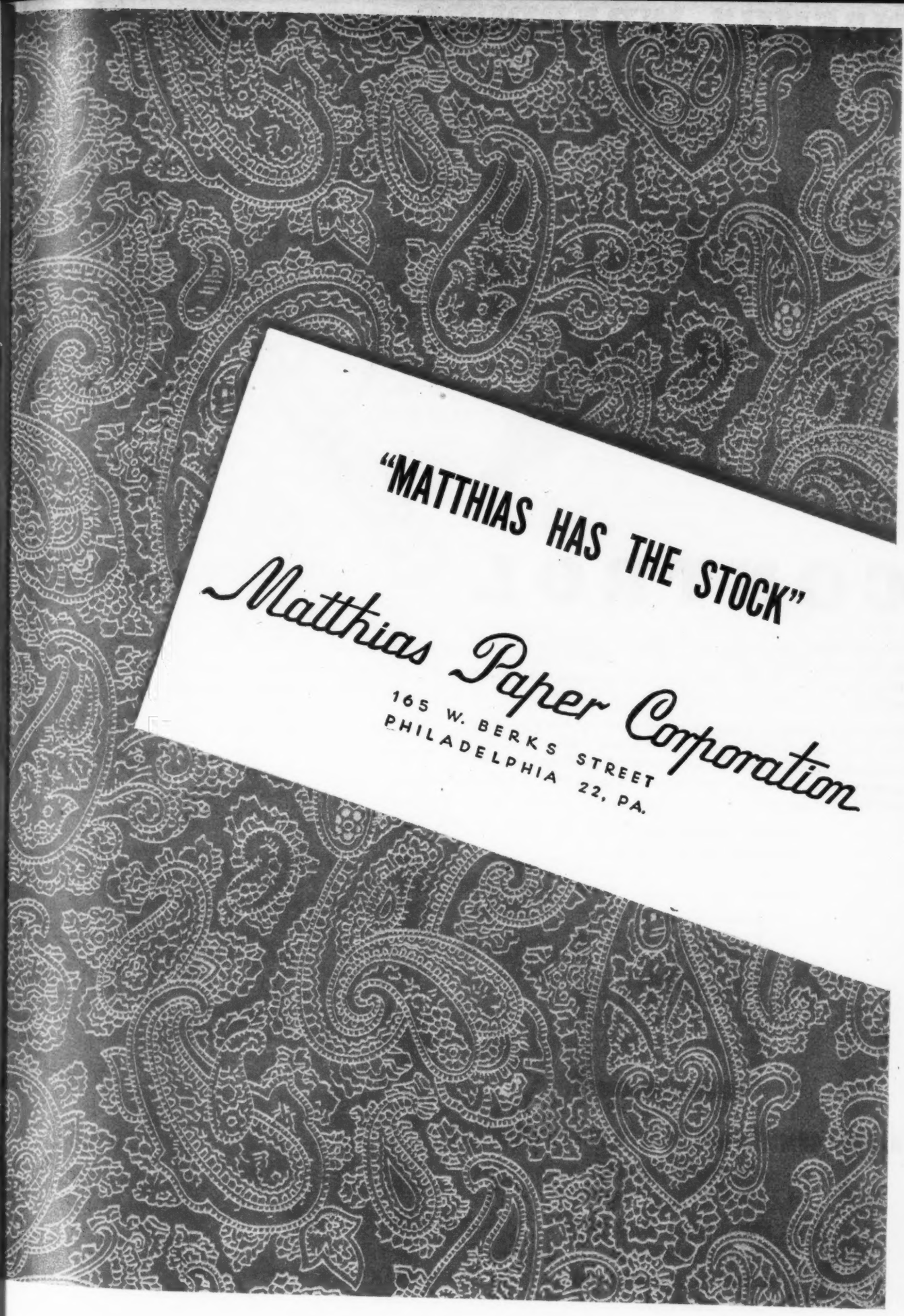


Spongex is a resilient, flexible, blown form of rubber available in soft, medium and firm densities.



SPONGE RUBBER PRODUCTS CO.

WORLD'S LARGEST MANUFACTURER OF CELLULAR RUBBER AND BONDED FIBRE PRODUCTS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NASHUA WRAPPERS are a sum *total

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Through experience we have established standards. Through modern methods of scientific control our production is held to these standards. In no other way can production be held uniform.

Laboratory control of coatings, of ink colors, of base papers. Technical control of machine operations and handling processes. These, together with constant checking at progressive steps, assure a high degree of uniformity in every run and between runs.

Nashua wrappers are true to color and coating — uniform.

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NASHUA GUMMED AND COATED PAPER COMPANY
Nashua, New Hampshire

*EXPERIENCE, EQUIPMENT
ORGANIZATION
VERSATILITY, RESEARCH
CONTROL

PEACE

AND WHAT IT MEANS TO PACKAGING

A last-minute report from our Washington Bureau

Optimism should prevail throughout the packaging industries—both suppliers and users.

Within a week after the Japanese indicated acceptance of the Allied surrender terms, WPB had wiped out many of the restrictive orders affecting packaging materials, and since that time even more have been eliminated.

With the exception of tin for can coatings and possibly one or two other materials, it is felt likely in Washington that virtually every material used in packaging will be "unfrozen" from Government control before the end of this year.

This does not mean that there will automatically and immediately be plenty of everything at hand for everybody. But it does mark an unexpectedly sudden transition from a wartime to a peacetime economy. The normal laws of supply and demand are once again in operation. Sooner than anybody had a right to expect, packaging will be back to normal.

In the container field, steel shipping drums, wooden shipping containers, paper cups and paper food containers, fibre shipping drums, fibreboard containers and other items which had been rigidly circumscribed both as to use and manufacture are now entirely free of Government control.

In the paper field, the "M" orders on pulpwood, waxed paper, moisture-vapor barriers, container board, grocers' and variety bags, paper shipping sacks and specialty bags were lifted within a few days after the Japanese surrender —and remaining orders will go quickly. The order on converted paper (M241-A), recently amended, has been killed.

All restrictions applying to the manufacture of setup and folding boxes and to inventory control of boxboards have been removed.

The speed with which the desperately critical paper situation has cleared up is one of the most surprising aspects of the transition. Only newsprint remains critical. Fine papers have been released from controls, with the warning that supply is somewhat dependent on continued shipments of Scandinavian pulp.

As for the other basic packaging materials—glass and steel—the country is virtually back on a pre-war basis as of this moment. Glass is unlimited, as are metal and plastic

closures for glass. Can use, will, of course, be restricted for a while (whether by Government rules or by natural laws) as to the weight of tin coatings. But with the war-time experience in conservation of tin, no fears are felt in this respect. Plenty of tinplate for this year's food pack has been assured.

It may be almost a year before tin shipments from the Straits bring supply here back to normal, although the British estimate that shipment can start before the end of this year. Rubber is expected to come sooner and faster—but in packaging synthetics will continue to fill the bill in most cases.

Cordage fibres, already easing up before the Japanese surrender, show continued progress toward freedom from Government controls. The "M" order on waste manila rope pulp has been lifted, as has the order on jute and jute products. Hemp remains somewhat tight.

Collapsible tube manufacturers and users may expect further relaxation of controls on the materials they need. Aluminum in all forms, including foil, is readily available now for any use, and the restrictions on zinc, lead and tin scrap have been lifted.

Controls have been swept away on plastics and most of the chemicals used in packaging, including chemicals needed for paper-making. Cellophane and oils and waxes needed for protective coatings have been freed.

All limitations have been removed from softwood veneers —until recently very closely restricted.

Fortunately, the mechanics of reconversion are no great problem for most packaging suppliers. The can industry, for instance, with cancellation of huge Government orders, can swing immediately to production of needed civilian supplies.

All in all, the packaging and container fields have fared well at the hands of the Washington agencies which have so closely governed their activities during the war years. Acting with an alacrity which amazed veteran Washington observers, these agencies have laid about with a great scythe, cutting all unnecessary orders and restrictions.

Judging from the speed and lack of red tape which has characterized the activities of these agencies since the Jap surrender, there is every reason to believe that the package-making and using industries are well on their way to an early era of development unhampered by the necessary but nonetheless restrictive Government controls imposed by a war economy.

MODERN PACKAGING
VOLUME 19 SEPTEMBER, 1945 NUMBER 1

Sins of misbranding and how to avoid them

*by S. L. Mayham**

In the days of the Old West a certain stage coach line manager had a favorite question which he asked all candidates for jobs as drivers. The question was, "How close can you drive a stage coach to the edge of that road that runs along the cliff?"

Some candidates would reply that they could drive within two feet of the edge. They were put on the waiting list. Once in a while a candidate would say he could come within an inch of the edge. He went further down on the waiting list. Sometimes a foolhardy soul would say he could drive with one wheel over the edge. He was promptly dropped from consideration. Once in a while the candidate would say, "I will keep just as far away from the edge as I can," and he usually got the job.

Manufacturers in considering the legal requirements of their packaging and labeling think along the same lines. There are too many who either willfully or inadvertently see how close they can come to the edge. Once in a while one gets all four wheels of the stage coach over the edge and it is only the fact that the law of gravity, in the person of the Food and Drug Administration, has been temporarily suspended because of urgent war work that some of them have not already ended up on the rocks of legal difficulties.

In our work we are privileged to see a great many packages and a great many labels. Fortunately most of them are pretty good. They are at least one foot from the edge, and a good many of them are about as far away from the cliff as they can get. However, there are still too many who are driving awfully close to the cliff, some of them because they do not thoroughly understand what is required, but many of them because that is the kind of guys they are. When the war is over and the Food and Drug Administration is able to use all its efforts in the enforcement of the Food, Drug and Cosmetic Act a good many of these people will find themselves in serious difficulties.

Bad labeling and bad packaging follow pretty much standard patterns. There are a considerable number of what might be called standard errors. Perhaps it would be useful to point out some of the most frequent of these errors and express the pious hope that those manufacturers who have fallen into them will get a little farther back away from the edge of the cliff.

In labels perhaps the most frequent error is that the required information (name and address of the manufacturer or distributor, and net contents) is inconspicuous. The law and regulations provide that this information must be conspicuous "as compared with other words, designs and devices" appearing on the label. A good many of the labels have the manufacturer's name or the brand name of the product in print which even a semi-blind man could read and then put the address and the statement of contents in such tiny type that the best eyes would have to use a magnifying glass to see it. That is definitely not in compliance with the existing laws.

Another frequent cause of inconspicuousness is the poor choice of inks and colors. Often the name, address and statement of contents, while in reasonably large type, are printed in a color which makes it almost impossible to read in ordinary light.

Even more frequent are cases where the brand name of the product alone is large, clear and distinct, and the manufacturer's name, address and statement of contents very small indeed. This is even more serious from the standpoint of the

* Executive Vice President, The Toilet Goods Assn., Inc.

Preferring positive and constructive illustrations rather than "horrible examples," the editors of MODERN PACKAGING *selected articles which represent exemplary practices rather than violations. Any drug store contains both, with correctly labeled products fortunately in the majority.*

Zemacol package—both carton and bottle—use design and color principles that afford excellent readability.

enforcement officials than the former cases. Food and drug officials are insistent that statements of content be clearly understandable and conspicuous.

On liquids such statement should be in fluid ounces—frequently it is not. On solids and semi-solids it should be in ounces by weight. It usually is, but quite often it is not so stated. In the case of liquids, best procedure is to label the product, "Contents 2 fl. oz.," and in the case of solids and semi-solids best practice is to state, "Net weight 2 oz."

There is also a less-known provision of the regulations which is very frequently violated. This is that the contents must be stated in terms of the largest quantity by weight or by measure in the package. For example, a bottle of liquid containing 20 fluid ounces is incorrectly labeled if the label says "Contents 20 fl. oz." It should be stated instead as, "Contents 1 pt. 4 fl. oz." or "1¼ pts." It is the belief of the authorities that on packages of this size the general purchasing public understands pints and fractions of a pint while it does not thoroughly understand such large quantities expressed in fluid ounces.

The law and regulations are clear that the required information must be on the principal label. There are very few exceptions to this rule. Manufacturers have not followed this as completely as possible. Quite often designers have a tendency to feel that their labels are being "spoiled" if the contents and the manufacturer's name and address appear on the front label. In almost every case this is complete nonsense because it is quite possible to design attractive, interesting and appealing labels with the complete information stated on them. It has been done by many of the finest perfumers whose labels must be attractive if the labels of any products are attractive.

Quite frequently there is a front label which contains the brand name or a distinguishing design and the required information is placed on a direction label on the other side of the package. In very few cases is this permissible. Occasionally a manufacturer of a liquid product will print the required information on the reverse side of the label so that it is read-

2—Traditionally the Bromo Seltzer package has used its blue bottle as a recognition mark that figures prominently in advertising and on the package itself. This mark appears full size on one panel of the carton, but all required information appears on another panel, which thus becomes "principal display panel." Note the prominence which is given to cautions against improper use. 3—Presence of all the required items on the Skol label does not detract from the straight-forward effectiveness of package appearance. 4—From a design point of view, either face of this Nonspi carton could be the "principal" one. Whichever one the druggist faces out on his shelves allows the product to be recognized. Panels are used for different purposes—ingredients and quantity statement appear on one side and directions on the other. On the bottle, the labels function similarly, although design pattern is not followed. This product is both drug and cosmetic, therefore it names its active ingredients.

able only through the liquid. This definitely is not in compliance with the law. In fact, in such cases we would say the driver has at least two wheels over the edge of the cliff.

In the case of powder and other similar products where there is a bottom direction label there has been a tendency to place the required information on that label only. This is permissible in case there is no wording or no distinguishing design or device on the top or side of the package. If the brand name or the manufacturer's name appears on the top or the side the required information must be on that panel. Exceptions might be permitted in cases where the brand name appeared on the top of a powder box and the required information in good-sized, legible type appeared as a band around the side of the box, but a good deal of care should be taken to make the required information sufficiently conspicuous in such cases.

Sometimes part of the required information is clearly printed but some of it is missing. Quite often the statement of contents is omitted from the principal label even though the manufacturer's name and address appear thereon. Occasionally the address is omitted. More frequently the address is so abbreviated as to be meaningless to many purchasers. If there is any doubt, addresses should be spelled out completely. Where the name of the manufacturer or distributor cannot be found in a city telephone book or a city directory, it is necessary to place the complete street address on the label. We have yet to see a label which contained a complete street address, although we believe it should be on a considerable number of labels.

Use of the word "Distributor" or the wording "Distributed by" or "Manufactured for" is required where the name appearing on the label is not that of the actual manufacturer of the goods. The authorities take the position that where a name alone appears the public is led to believe that the person named is the actual manufacturer. This seems to be reasonably well understood, but there are undoubtedly cases where this identifying word does not appear. It is not, in the opinion of the enforcement authorities, a minor violation.

Under the Federal Food, Drug and Cosmetic Act a considerable number of products are both drugs and cosmetics. Where the product is designed to affect the structure or any function of the body the product, while it may be a cosmetic, is also a drug under the law. For example, an anti-perspirant lotion which is designed to affect the functioning of the sweat glands or to temporarily contract the pore openings, is not only a cosmetic—it is also a drug. The law requires that the names of the active ingredients of any drug appear on the label and again the word label means the principal label. There are probably some manufacturers who do not realize that certain of their cosmetic products are also drugs, and accordingly, omit the statement of active ingredients. In every case of doubt it is much safer to place the names of the active ingredients on the label.

When the product becomes a drug there are certain further requirements. All drugs intended for general purchase by the public must contain adequate directions for use and in some cases a warning statement concerning the effects of the active ingredients is required. These directions must be clear and definite. If they do not appear or if they are not sufficiently definite the product is misbranded. In addition where a cosmetic product is also a drug a statement of the kind and the quantity of any alcohol contained in it must appear upon the label. This statement is omitted on a great many labels.

Where a product is contained in a bottle and that bottle, in turn, is placed within a carton or box the required information must be repeated. It is insufficient to place it on the bottle alone and not on the box because in theory the purchaser is entitled to see the required information without opening the package. It is also insufficient to place it on the carton and omit it from the bottle because in theory the purchaser will discard the carton and retain only the bottle and she is entitled to have the required information at any time during the use of the product.

In the case of many cartons, several faces may be considered as the "principal label." In cases where there is any

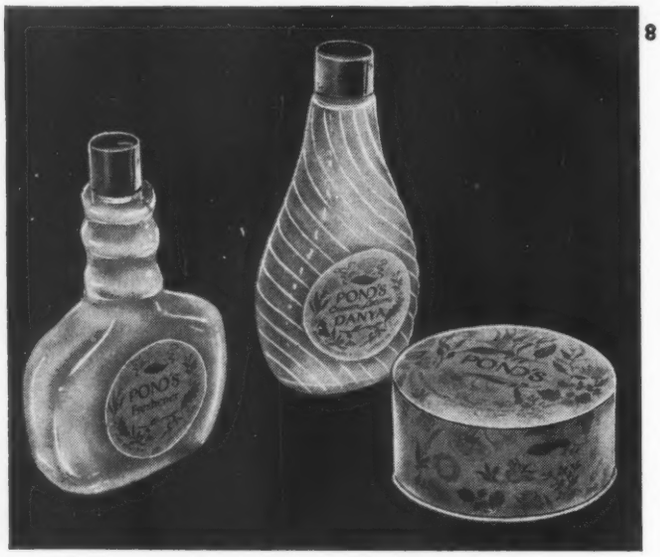
5—On small packages, two labels may be necessary—"principal" to carry items required by the Food, Drug and Cosmetic Law, the other for information for the convenience of consumer. 6—Hobson's carton contains all required elements plus "sell copy" for uses of the product. Bottle label also contains the required elements, but substitutes directions for use in place of sell copy.

5

MADE IN U.S.A.
Rexall
Eye Drops
1 Fl. Oz. D 153
CONTAINS:
Camphor, Boric Acid, Zinc Sulfate, Distilled Water.
A soothing, astringent cleansing lotion for simple irritation.
See back label for Directions 9142
United Drug Co.
Boston St. Louis U.S.A.
Rexall
Eye Drops
A Soothing, Cleansing Lotion for Simple Irritation of the mucous membrane of the Eye and Eye-lids, such as is caused by dust, high wind or glaring light.
DIRECTIONS
With the eye dropper place a few drops of the Eye Drops in the eye every half hour, or oftener, until relieved.
9143 D 153

6

7



8

7—"Ethical" products—those sold by prescription—must also carry the required items on the package. Terminology is professional in character, carefully checked by both medical research and legal departments of manufacturer. 8—Although the Food & Drug Administration allows a reasonable latitude for perfume packages, large producers are punctilious in exact observance of the law.

doubt as to what the principal label is, the required information should appear on each panel which might be considered the principal label. Perhaps the best test on this point is to determine how the storekeeper would display the product. If he might display it with more than one panel facing outward on his shelves the required information should be on each panel which might be so displayed.

There seems to be less understanding of the requirements of labeling combination packages than on almost any other point. Where more than one package is placed within a combination box it is necessary that the required information appear not only on the individual items but also on the outer container. This information must consist of a complete listing of the contents of the box including the net contents of each package contained in the box, where such package requires a statement of net contents. In addition the manufacturer's name and address and a statement of net contents must appear on each individual package and the manufacturer's name and address must also appear on the outside of the box. Very frequently the list of contents in a combination package is not complete; this is a violation. Quite often the net contents of the items is not stated on the outside of the box; this also is a violation. Less often the manufacturer's name or the address does not appear on the outside box or on each of the items therein. It must appear in both places.

With respect to the statement of net contents the law requires that in the case of liquids containers of $^1/_8$ ounce or more must be labeled, and in the case of solids and semi-solids net weights of $^1/_4$ ounce or more must be stated. It is a frequent misconception that liquid containers of $^1/_8$ ounce are exempt and solid and semi-solid containers of $^1/_4$ ounce are exempt. In the case of liquids the trade of course thoroughly understands that $^1/_8$ ounce is 1 dram, but the authorities do not believe the public understands the word "dram." Accordingly, they prefer that the contents be stated as "$^1/_8$ oz.," although no cases have been brought against manufacturers who labeled such a small package as "1 dram."

It is permissible to state the contents of a package in terms of numerical count. Very few such statements appear and occasionally as in the case of a box of bath tablets or several vials of bath oil of the same odor in a box the content statement is omitted where it could readily be on in terms of numerical count.

In addition to the standard requirements of the Food, Drug and Cosmetic Act and the various weights and measures law there are certain emergency requirements with respect to prices of goods. Where cosmetics have been priced under the regulations of the O.P.A. a label or tag must be firmly affixed to each package containing the following wording, "Retail ceiling price $—— (MPR-393)," or in the case of professional packages "Professional size, Ceiling price $—— (MPR-393)." MPR-393 refers to the regulation for the pricing of cosmetics. In the case of drugs the statement should be "MPR-392." Where a price appears on the label it is the duty of the *retailer* to indicate that the 20% federal excise tax must be added to the stated price. This is not the responsibility of the manufacturer, but many manufacturers are cooperating with retailers in order that the statement regarding tax appears in accordance with Treasury Department and O.P.A. regulations.

Unfortunately, there are still a few manufacturers with all four wheels over the cliff who are placing their products on the market in deceptive containers. The law is specific that a cosmetic is misbranded "if its container is so made, formed or filled as to be misleading." There has never been any excuse for a misleading container and yet the cosmetic and drug industries are still frequent offenders in this respect. Misleading packages fall into two classes: First, those that are not filled full. The most frequent offenders in the case of cosmetics are powders which do settle to a certain extent after packaging. Production engineers are authorities for the statement that there is practically no powder which cannot be packaged in such a way that it will fulfill all legal requirements when it reaches the purchaser. Failure to fill in this way is the responsibility of the manufacturer and the excuse that the powder settles will not be acceptable. The other class is packages which are made so as to deceive the purchaser as to the quantity of the contents even when they are full. It should be pointed out that no statement of the net contents, no matter how large or how conspicuous, relieves the manufacturer from the responsibility that his packages not be made or formed so as to be misleading.

Probably all of us recall the old type flavoring extract bottle with the deep set panels. Some of then looked as if they contained a pint while they contained barely 2 ounces of liquid. Even if the net contents were stated in letters an inch high this bottle would be a misleading container. In the cosmetic and drug industries jars with abnormally thick walls would be considered misleading. As an example we might cite the jar which is oval on the outside with a round bowl for the contents. Undoubtedly the purchaser thinks she is getting more than she actually receives, at least when she buys this jar for the first time. Then there is the jar with the thick bottom and the deeply depressed bottom. Fewer of these are now on the market than formerly.

With respect to boxes there have been such things as false bottoms but there are few, if any, of these on the market now. It is, however, just as misleading to leave a large space for a powder puff in the top of a face powder or dusting powder box and not supply the puff to take up the space. Occasionally a carton containing a bottle is so much larger than the bottle itself that it cannot be classed as other than a misleading container. Sometimes, too, bottles with narrow waists or excessively sloping shoulders are packed in rectangular cartons. These the authorities consider misleading, but they have compromised to the extent that they will be permitted where an actual sized facsimile appears on the outside of the carton.

The authorities are inclined to be reasonable in cosmetic packaging in cases where the package itself is a considerable element of the final value of the product, or where artistic elegance demands certain packaging features not in line with the factor of strict utility. For example, a perfume bottle may be formed and shaped more liberally than a bottle of a lotion or a hair preparation. The box which encloses a perfume bottle need not adhere so strictly to size and shape requirements as one containing some other less glamorous product, but these concessions should not be taken as a blanket license "to go high, wide and handsome" in packing these high luxury items.

It is a reasonable question why all of these violations continue on the market in spite of the fact that the new law has been in effect for seven or eight years. The answer is twofold. First, when the law went into effect the administrative officials quite naturally got after the most serious violations first. Among these serious violations were the presence on the market of products injurious to health, the serious misbranding of foods and drugs and others of more direct danger to the public. At just about the time when cosmetics and proprietary packages and labels would have come into serious question and when strict enforcement would have been undertaken the department was forced to engage in work directly connected with the war, and at the same time suffered serious personnel difficulties. While this slowed up or checked strict enforcement of the labeling and packaging provisions of the act it did not stop the collection of information and, in some cases, the preparation of cases to be brought at the earliest convenient moment. With the war ended and the work of the department getting back to normal it may be expected that a series of cases involving many, if not all, of the violations outlined in this article will be started.

Package from home—happy arrival

In our March, 1945, issue an article, "Package from Home," by T/5 William S. Pensyl, told of the sad condition of the contents of many gift packages received by servicemen in far parts of the world from well-meaning friends and relatives.

A happy sequel to this story comes from the B. F. Goodrich Rubber Co., which last Christmas sent 5,400 gift parcels to employees serving in the Armed Forces. Each package contained 16 gift items, enclosed in three pouches made of the company's own polyvinyl chloride film (Koroseal) and suitable for re-use as tobacco pouches or otherwise. The three pouches were fitted into a Koroseal nylon duffel bag tied tightly with a cord at the neck and the whole shipped in a sturdy cardboard container.

The company enclosed a return card on which the boys could state in what condition the gifts arrived.

Acknowledgments have been received from 45% of the 5,400 recipients—and replies are still coming. So far not one has indicated that his gifts were in anything but good condition when received, the company says. In several instances, the parcel—which contained, among other things, a fruit cake—reached its destination only this June after being mailed last October, yet the fruit cake and such items as Jordon almonds and hard candy were reported still in perfect condition. Although Goodrich used its own material for the gifts, it is not yet generally available.

1—*The new Birds Eye package, with its prominent trademark, its natural color representation of contents and its interesting farm scene, is designed for consumer attention.*

Color for Birds Eye . . . *a picture package*

The perfect package for frozen foods, according to officials of the Birds Eye-Snider Division of General Foods, is yet to be developed. This is at once the starting point and the conclusion resulting from their most recent steps in packaging methods for quick-frozen vegetables. Currently they are launching their new packages in selected test areas to determine consumer reactions to the new designs. But there is more to the story than simply the matter of external design—there is also the matter of package structure and materials as well as the matter of new equipment and procedure on the production line.

In the fast-growing frozen foods field, the Birds Eye organization is regarded as a pioneer in processing, packaging and merchandising. As a matter of fact, during the early days of the industry Birds Eye had the field almost to itself, which meant of course that many trails had to be blazed. Among them were the questions of unit sizes of packages, selection of package materials, establishment of packaging production practices and development of refrigerating equipment for retail outlets, as well as plans for supplying that equipment to the dealers.

As the new products took hold, not only did new producers enter the field, but established canning concerns added frozen food equipment to their plant facilities and makers of refrigeration equipment joyfully threw their hats into the ring. Although the war has imposed a serious set-back on the production of refrigeration equipment, an impetus has actually been given to development work of new types of refrigerator-display cases; one important change is that which provides visibility of package and self-service convenience. These will appear in increasing numbers as normal times return.

The Birds Eye people cheerfully acknowledge that these conditions—new competition and new refrigeration equipment—have been a moving influence in bringing about their new packaging. Their package, they feel, has been as well known as any on the market, but from the standpoint of beauty and appeal—well, it could be improved—and they set about to improve it, so that its appearance would compare favorably with some of the new arrivals.

From the point of view of design, certain elements were tagged "must." First, of course, were those required by law—product name, quantity and name of distributor, all of which must appear on the "principal panel." But close to top importance in their judgment should be the Birds Eye trademark which has been featured on their package from the very first—the familiar white silhouette bird on a blue background. This has been retained in a size almost as large as on the old package, with the bird outline just slightly altered to afford better recognition. Identity of contents of the individual package is shown in a circular panel against a white background on the front of the package. Here a variation of type styles is used that make for quick and easy reading.

The idea of a visibility package, so tempting to almost all food producers, was naturally considered carefully, but was finally rejected on two counts: first, not all foods have an appetizing appearance; that is especially true in the case of some frozen foods, due to the formation of ice crystals. Next, practical difficulties in the forming and handling of window boxes might slow up production and decrease protective qualities out of proportion to the advantages of visibility.

But fruits and vegetables in natural color *are* interesting and appetizing. This interest and appetite-appeal are at-

tained on the new Birds Eye package by means of direct color representations of the fresh product, appearing as a part of the background on the front panel of each package. A pleasant note of interest is added by means of a farm scene in the lower left corner.

The desire of consumers for informative labeling has had its influence on this package. As with the old container, the back panel tells how to cook, how to serve and how to keep the contents while the side panels contain—in house-wifely language—facts about the selection and preparation of the products. The end panels where the heat seal is formed, merely bear the product name.

The old design was in two colors. Structurally, the package consisted of a paperboard shell with an inner liner of cellophane and an outer wrap of waxed paper. For additional moisture resistance—because the frozen food package must be refrigerated throughout its life from producer to consumer—the paperboard shell also had a coating of wax.

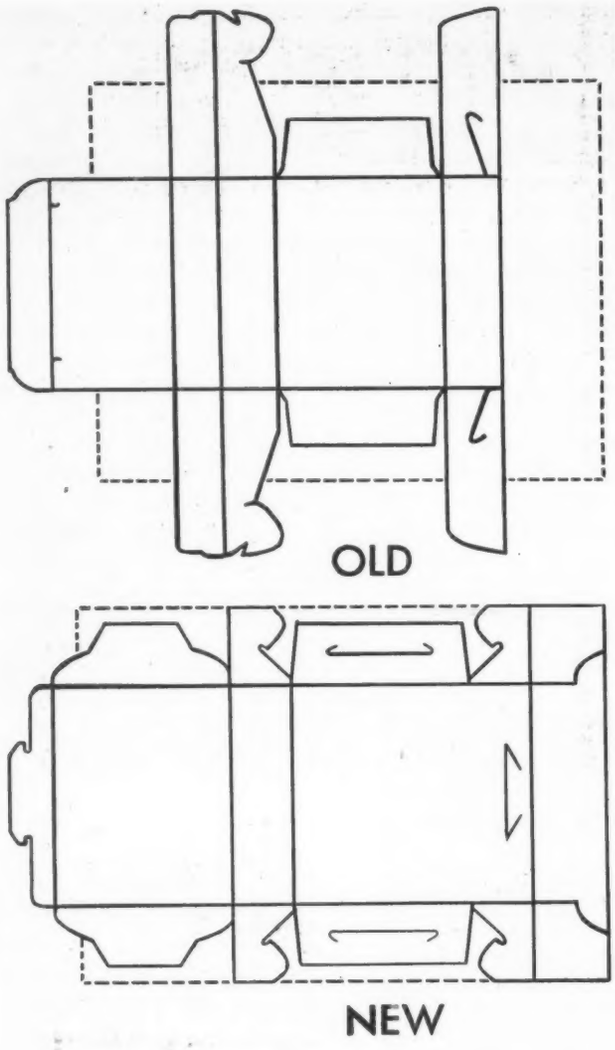
On the old package, the outer wrap was of transparent waxed paper, through which the design on the paperboard was visible, and it comprised an overwrapper for the entire unit. This paper had heat-sealing properties and the wax used in its coating was a special grade intended for sub-zero temperatures. The ordinary wax dries rapidly at low temperatures, with the result that the overwrap seals of frozen food packages are often imperfect. This special grade of wax was intended to overcome that imperfection.

The new design called for full-color reproduction, for adequate representation of the products. The printing is applied to the outerwrap instead of to the paperboard shell. As formerly, the outerwrap is of waxed paper, but now is opaque instead of transparent. This wrap is rotogravure printed and the wax is applied after the printing is done by a process which Birds Eye declares is a "first" in this field. As before, the package has two coatings of moisture-resistant wax. In both old and new packages, the inner wrap of cellophane comes attached to the paperboard carton blank and these blanks are delivered flat by the supplier. In comparison with the old package, the new container is fabricated in such a manner that it affords a saving of approximately 10% in cellophane and in the neighborhood of 20% in paperboard, although the finished package is the same size and capacity as the former one. Careful tests have been made. The results show that the new package is very satisfactory from a moisture-retention standpoint.

Hand in hand with the changes in package structure came

2—*The pioneer package (left) did a straight job of product and brand identity. The new package retains these features and adds pictorials for information and interest.*

3—*Consumer information on how to cook, serve and keep frozen foods, featured on the back panel of the old package (left) also appears on the new package, only slightly revised in form and arrangement.*



the development of new equipment for the packaging line. Production speed is set by the filling machine, the speed of of which must of necessity be regulated by the nature of the product being packed. In the case of peas, this will run about 60 to 70 cartons per minute. As previously operated, at this rate the line required two carton-forming machines to prepare the blank cartons for filling. Each of these machines required an operator who fed the carton blanks by hand into the forming machines; from this machine they traveled down a chute to the filler below. After being filled, the cartons were carried by conveyor belt past a dozen or more operators who closed them by hand and whose combined efforts kept pace with the machine's output.

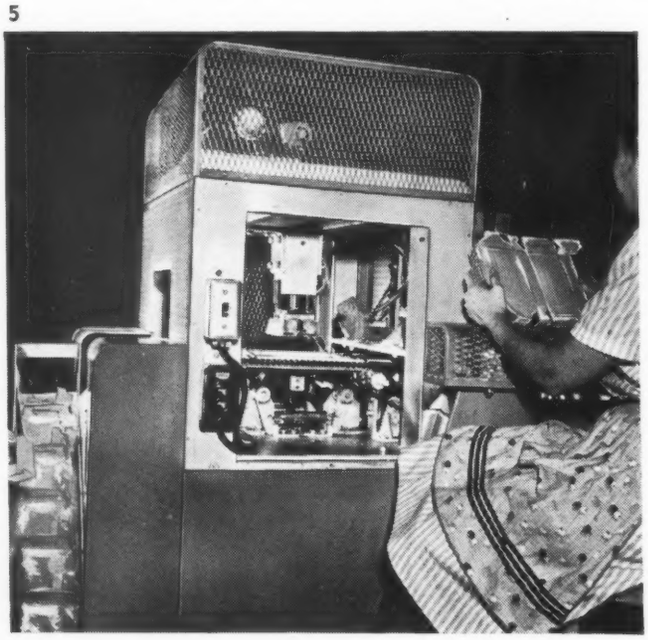
On the new line, a single carton-forming machine has been installed which has a speed that matches that of the filler. The carton blanks are fed automatically into this machine from a stack and the operator merely keeps the stack full and sees to it that the cartons behave themselves as they travel by chute to the floor below. The new forming machine has a capacity of perhaps 75 per minute. It is streamlined in appearance and equipped with adequate safety guards.

As before, the filled cartons emerge from the filling machines onto a conveyor belt. Instead, however, of carrying them to the line of girls for closing, the belt now takes them to a new carton-closing machine which is synchronized with the forming and filling machines. As the filled cartons enter this machine, a plunger, with a reciprocal motion, transforms the single line into a double file and the double mechanism of the machine deftly closes the tops and inserts the carton flaps in readiness for the wrapping operation.

This is performed by a machine of the standard bread-wrapping type, which draws the outer wrap snugly about the carton and heat seals the ends. (Like all machines which handle wax-coated packaging material, this one generates enough heat to cause melted wax to accumulate on surfaces. The plant superintendent was a trifle worried because the

4—New package affords economy in both paperboard and cellophane. Diagram shows amount of board required for new package compared with old; dotted line represents size of cellophane inner wrap. 5—Carton blanks are fed automatically from a stack into the carton-forming machine, from which they emerge—ready to be filled—at the rate of 70 per minute. 6—Formed cartons (moving to left in background) enter the filling machine and travel filled (moving to right in foreground) to carton closing machine by means of a conveyor belt.

5



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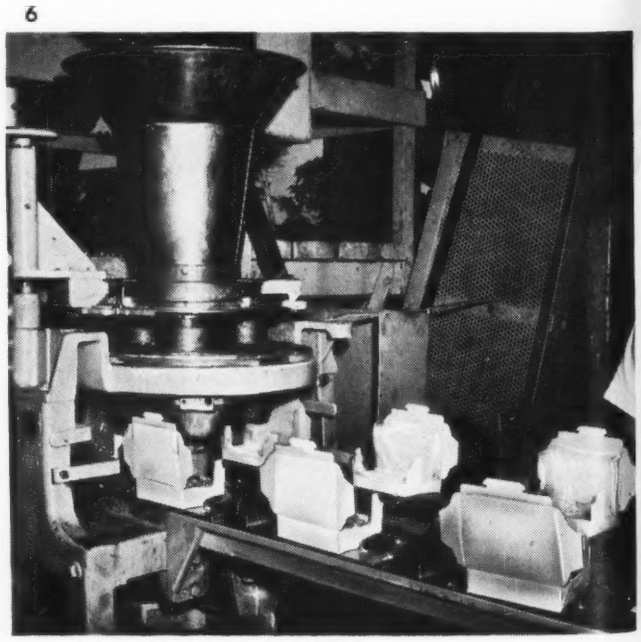


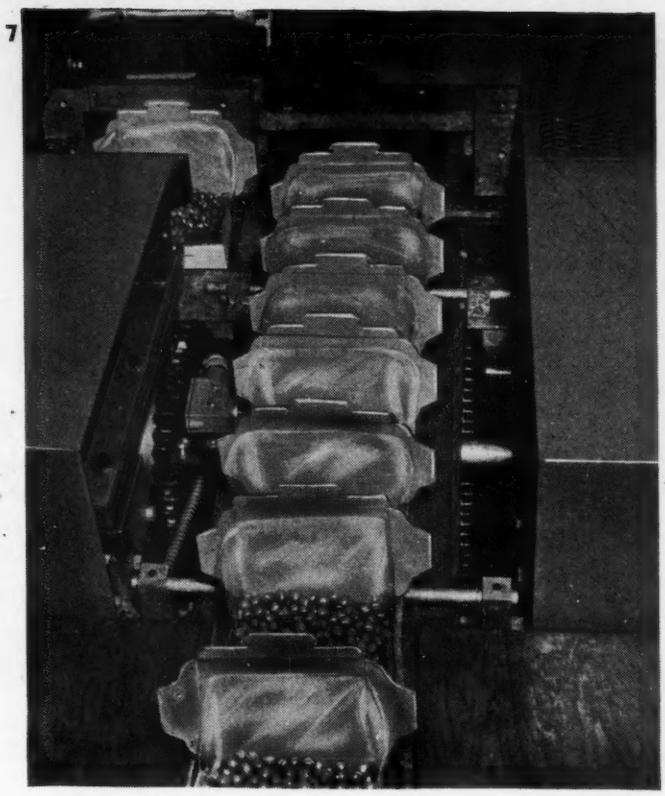
photograph might give the impression of untidiness—until he was assured that the readers of MODERN PACKAGING knew all about the habits of good, clean wax!)

The outer wrap is fed from a roll with a mechanism that resembles a miniature newspaper press. This roll travels by fits and starts, its stoppages being caused by an "electric eye" which makes sure that the cut-off comes at the proper place on the wrap. The black spot that causes the operation of the electric eye is printed on the margin of the roll. The wrapping operation folds this under so it is not visible on the finished package—which now is ready for the freezing unit.

Perhaps, as the Birds Eye people say, the perfect frozen food package has not yet arrived. At any rate, they are proceeding on the assumption that improvement is always possible. "We think this is an improvement," they say, "but we don't intend to stop here. In matters of both package and product, we intend doing everything we can to maintain our position."

CREDITS: *Designs by Frank Gianninoto & Associates, New York, N. Y. Outer wraps by Marathon Corp., Menasha, Wis. Inner carton shell and liner by Waldorf Paper Products Co., St. Paul, Minn. Machines: Carton forming and closing, Frank D. Palmer, Inc., Chicago, Ill. Carton filler, John W. Ayers & Son, Bloomfield, N. J. Wrapping machine, Battle Creek Bread Wrapping Machine Co., Battle Creek, Mich. Electric eye, General Electric.*

7



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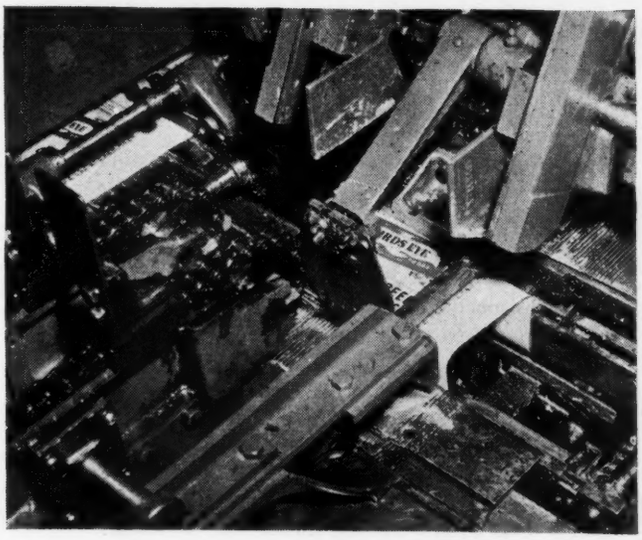

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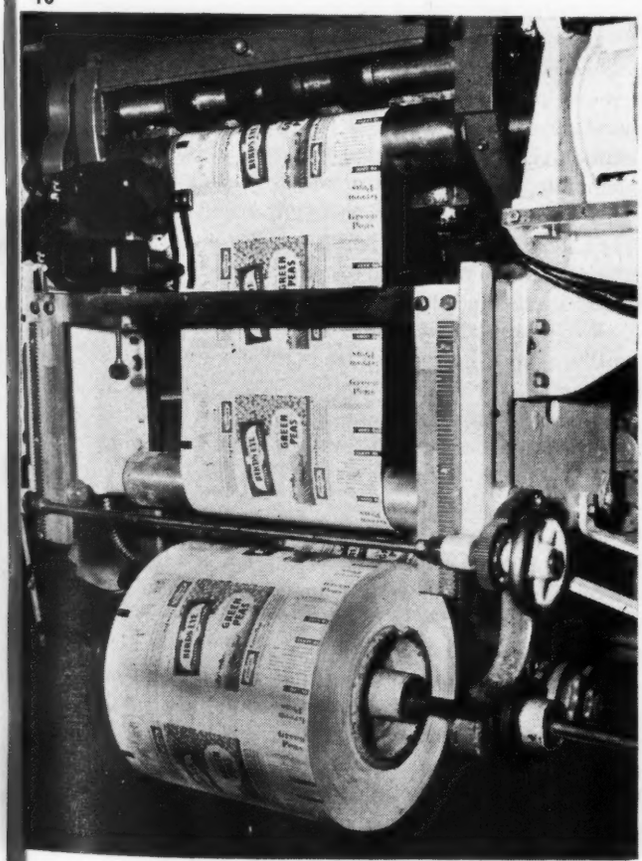


7—Single line of filled cartons (moving upward in the illustration) becomes a double line in the machine which closes them at the rate of 60 to 70 per minute. 8—The twin action of the closing machine deftly closes tops and inserts flaps in readiness for the wrapping machine. 9—Cartons, filled and closed, are snugly wrapped in the colorful outer wrap, which is heat sealed on the ends. 10—Outer wrap, roll-fed, has an electric eye controlling its motion to make sure cut-off comes at proper place.

Frozen foods . . . the package in their future

by Jim Baker*

1

Frozen food packages of recent design have cellophane overwraps rotogravure-printed on reverse side, to preserve glossy finish. Package at left is adaptable to several different meat products with blank spaces provided on top for writing in product name and weight. Center package has natural color photographic reproduction of fruit. The one at the right uses background color alone to suggest the bright green of fresh broccoli.

Men in the frozen food business and those who contemplate entering the field are uniformly optimistic about the future of quick frozen foods. Yet there is no uniformity in their estimates of the extent to which quick frozen foods will replace fresh, canned and dried foods.

Frozen food men who have a broad food industry background believe the novelty of quick frozen foods is wearing off and that the future growth of the industry will be determined by how well frozen foods can be made to fit the modern retail food merchandising pattern. This pattern requires a rapid turnover of a large volume of merchandise at a consistent, yet narrow, margin of profit.

Frozen food products thus merchandised must meet certain minimum requirements if they are to win anything like the amount of floor space and vigorous promotion which is given fresh, canned and dried products in the modern retail food market.

1. Quality must be high and uniform and must be kept that way until the food is consumed.
2. Frozen foods will have to become more economical and represent a value to the consumer equal to or better than other types of processed foods to win constant use by the consumer and build a consistently high volume of sales for the retailer.
3. Packages must have plenty of sales appeal, since in normal times frozen foods must compete with all other types of fresh and processed foods for a share of the shopper's food dollar.

The original uniform quality of a frozen food product is determined by the quality and uniformity of the product in its fresh state and the manner in which it is processed. Preserving that quality until it reaches the consumer is the function of protective packaging.

In spite of wartime shortages, the frozen food industry has had a fairly wide range of available protective packaging materials. Moistureproof, heat-sealing cellophane is the most widely used, since few available materials combine such a high degree of protection and sales appeal at low cost. In cases where greater durability and protection are required, moistureproof cellophane is coated with special hot-melt coatings or laminated to parchment or wet-strength kraft papers.

In addition to cellophane, there are coated papers of several types and wax-coated and laminated cartons. Most of these materials lend themselves to the use of some form of automatic packaging machinery.

Following the war there appear to be additional packaging possibilities utilizing such protective materials as Pliofilm, aluminum foil, with and without coatings, and some of the numerous new synthetic resin sheetings. In talking to many of the larger frozen foods operators around the country, we are impressed with the necessity of providing more and more protection in packaging at lower and lower cost. This requirement will obviously have a lot to do with the type of package which will win general adoption in the future. Much time and money is currently being expended in all phases of the packaging industry to develop improvements in the packaging of frozen foods. High degree of protection is the keynote of this work, based on the realization that care and quality control in processing are useless unless the product can be kept in top condition until it is consumed.

The entire processed foods business has been built upon an ability to offer the consumer more convenience plus constantly improved product quality at lower cost. If frozen foods are to compete successfully against other processed

* Manager, Meat Packers' Division, Milprint, Inc., Milwaukee.

foods, they must offer the consumer an ever-increasing value.

With a few exceptions, the frozen food industry is composed of comparatively small enterprises. This is due in part to the desirability of locating the processing plants close to the source of raw material and partially because food freezing has been mainly a small-scale operation involving hand work.

Recently we have seen a lot of interest in the frozen food business on the part of large food canners. We believe this trend will continue and be accelerated by the development of mechanical continuous freezing and packaging methods. The processing methods of these larger concerns are at present almost completely mechanized and food freezing must be placed on the same basis to fit their operational pattern. The development of continuous mechanized frozen foods processing equipment is necessary to large and small processors alike in order to permit new operating economies which will lower the cost and increase the value of frozen foods.

Since packaging is such an important part of frozen foods processing and distribution, it is obviously necessary to find means of packaging the products more economically.

A much-needed packaging improvement is the standardization of package sizes, much in the same manner as can sizes for canned food products have been standardized. This would permit greater economies in packaging material manufacturing, provide the processor with greater flexibility in obtaining supplies and eliminate costly inventories which he must now carry for many months of the year. Several of the frozen food processors and distributors have already discussed ideas relative to the standardization of cartons.

Another need in connection with packaging is the development of a mechanized system of package forming, filling and closing in a continuous operation involving a minimum amount of hand work. Work is already being done in this direction.

One idea which probably will be successfully used to get the packaging of frozen foods on a completely mechanized basis is the adoption of the cereal type of packaging operation in which a carton and its liner are formed mechanically, delivered to the filling machine and then fed continuously into an overwrapping machine. The development of such a machine has been delayed because of its cost and the fact that many frozen food processors were too small to underwrite even a part of the cost of developing such a machine. Many of them were also probably too small to afford to buy such a machine if it were perfected. Large food processors interested in the frozen food business will undoubtedly give impetus to a development of this kind.*

Cost-saving improvements in frozen food transportation facilities, especially in rail and truck equipment, are also needed. To give frozen foods an opportunity to compete equally with other processed foods it will be necessary to have the physical means of distributing them safely and economically on a nation-wide basis.

No frozen food purveyor should be satisfied with a consumer package which is less attractive or possesses less sales appeal than other processed food packages with which his package must compete. Actually, if he expects to attract more people to the use of frozen foods, and to his products in particular, he must strive as hard as possible to give his package more sales appeal than those of competing foods.

Believing that too many frozen food packers were depend-

* See "Color for Birds Eye," p. 98, this issue.

2—Mouth-watering full-color reproduction of sizzling steak highlights this proposed package for frozen sirloin. Blank spaces are provided for price, weight. **3**—*Effect of a window package, without disadvantages, is obtained with this printed wrap for blackberries. Natural-color photographic reproduction of fruit appears as panel.*

4—An example of a stylized presentation of the product. Effective use of brilliant color and dimensional effect in the background lend appeal to the giant strawberry.

ing upon the novelty of frozen foods to do their selling job, this company several years ago developed a frozen foods packaging design idea which provided not only appetite and sales appeal but instant identification of the product as well. This particular package comprised a cellophane bag liner in a carton overwrapped with printed cellophane. Full-color illustrations of the product in its fresh state were printed by rotogravure in an all-over background pattern on the overwrap. By printing the overwrap in reverse, full advantage was taken of the sparkling gloss of the film. When this design idea was submitted to several people in the industry we were given the opinion that such a package would be too costly for the amount of increased sales it would produce. However, it was finally adopted by an aggressive West Coast packer and it proved to be a terrific sales winner. It won an award in the 1941 All-America Package Competition. Since that time variations of this design have become almost a standard.

As competition within the industry grows and the whole industry makes a bid for a greater share of the total food business, more and more attention must be given to the development of packages with more selling punch.

Recent news from the field of commercial refrigeration tells of the development of "reach in" self-service types of retail frozen food dispensing cabinets. Manufacturers of these cabinets plan to sell them directly to the retailer rather than to frozen foods distributors. Thus the retailer can install a complete frozen food department in his store and handle every line of frozen foods he desires. To take full advantage of this improved selling equipment, frozen food packages should be provided with a pricing panel on the face to mark or stamp the pricing information without defacing it.

Recognizing that many frozen food products have natural appetite appeal, many packaging firms are conducting experimental work to develop a completely satisfactory transparent frozen food package. The principal problem to be overcome in this connection is the condensation of moisture-vapor inside the package, which destroys most of the visibility. Since it is absolutely necessary to trap and hold the moisture-vapor within the package to prevent dehydration of the product, the obstacle still to be surmounted is clearly apparent. A possible solution might be to press the contents of the package tightly against the sides of the package sufficiently to remove the air spaces between the packaging material and the product. This would be comparatively easy with products packed in syrup. To accomplish it economically with green vegetables is something else again.

Announcement recently of the Maxson Sky Plate‡ (a pre-cooked frozen dinner) and activities of processors of frozen pastry reflect a growing interest in pre-cooked frozen foods.

It is believed that complete units of frozen pre-cooked meals will be sold primarily to airlines, railroads, restaurants and similar outlets rather than to the consumer through retail stores. Those who voice this opinion say that the complete meal unit is not flexible enough to provide the variety and selection necessary for a successful retail unit. However, they point out that pre-cooked foods packaged in individual units, permitting the consumer to make up any meal combination she chooses, have almost unlimited future possibilities, especially when the housewife has adequate storage facilities and means of defrosting and heating the products quickly.

Frozen meats, fresh and pre-cooked, will also have an important place in the future frozen foods picture.

Although the big packers are conducting pilot plant freezing operations and keeping themselves up to date on latest frozen foods developments, it is believed that most of the early commercial activity in frozen meats will be carried on by smaller packers serving a local trade area. The smaller packer's distribution system will permit easier and less costly entrance into the field. Most packers believe that in the beginning frozen meats will probably be restricted to a small group of fairly high-prized specialty items which may also be handled more advantageously by the small processor.

Large packers want to see more evidence of consumer demand for frozen meats before making large investments in the necessary processing equipment and rail, truck and branch house refrigeration facilities to handle frozen meats in a big way. They also feel that processing and packaging methods must be developed to permit continuous, mechanized operations eliminating the excessive hand work now required.

Powerful promotion of frozen foods generally and the consumer acceptance already won will undoubtedly create a natural demand for packaged frozen meat, fish and poultry.

Another development in the frozen food field which has interesting possibilities and one in which some of the nation's largest dairy firms are intensely interested is the idea of selling packaged ice cream in frozen food dispensing units in food stores. In this way packaged ice cream can compete directly with other dessert foods and would offer excellent opportunities for combination sales of frozen fruits along with ice cream. The sale of ice cream in retail food stores would provide the retailer with an opportunity to keep his frozen food sales at a high level throughout the year. Many of his frozen food items normally drop off in sales during the summer months, at which time, of course, his sales of ice cream would greatly increase. This idea is very attractive to the large dairy concerns because they want the public to think of ice cream as a food product and not a specialty to be enjoyed occasionally.

The successful future of frozen foods is tied up inseparably with good packaging. In every phase of the frozen food operation, whether it be commercial packing, locker plant or home freezer operation, the finished product can be no better than the package that is used to protect it. For the commercial packer, sales appeal must be added to the necessity of protection. Better and more economical frozen foods packaging will be the continuous contribution of the American packaging industry as frozen food experiences its inevitable progress.

‡ See "Frozen, Cooked, Eaten," MODERN PACKAGING, June 1945, p. 102.

Spice . . . and everything nice for Army cooks

"Kitchen spice pack for 1000 rations" is the identification stenciled on a great many wood boxes now arriving in all overseas theaters.

Contents and packing of a specific kit are the same, regardless of its eventual destination. Components number 15 at present, but it is possible that others may be added in the future.

This standard spice kit was developed by the Quartermaster Corps from the one designed for troops invading France last year, to provide a uniform combination of the most frequently used flavoring materials which would meet the needs of Army cooks everywhere without the addition of supplemental quantities of certain substances. It seemed obvious that a great deal of time and extra handling could be eliminated by such standardization.

Much of this advantage would have been lost if the exterior packing or the packaging of the components had to be varied to meet special conditions of humidity and temperature as well as different handling, shipping and storage facilities in specific regions. Fortunately, this was not necessary. Outer shipping containers and inner packages, identical for all destinations, afford sufficient protection of contents against the special hazards of every area, as well as those dangers common to all.

The nailed and strapped wood box is constructed to stand up under rough handling and on long voyages. Within this is a sealed, triple-ply asphalt-laminated creped kraft paper bag which provides adequate protection against the second great danger—moisture. The innermost container for the unit is a fibreboard box with inside dimensions of $13^{1}/_{2}$ in. by $10^{3}/_{8}$ in. by $8^{7}/_{16}$ in.

In this box, separated by corrugated fibreboard partitions, are the individually packaged components, in quantities proportionate to the frequency with which they are used. Since Army cooks need much less sage than black pepper, the kit contains a single 1-oz. can of sage in contrast to a total of 24 oz. of black pepper.

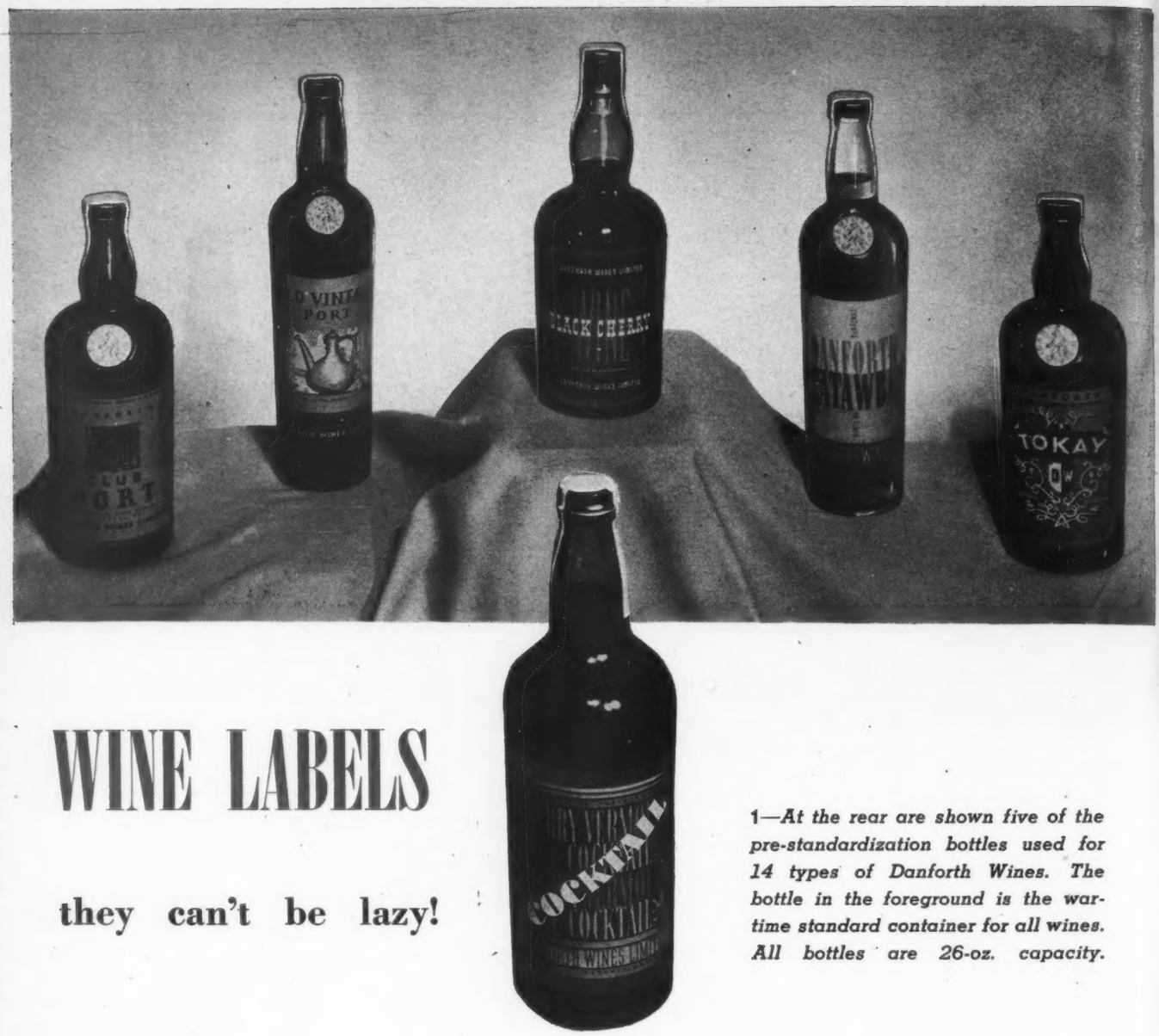
All of the components are packaged in convenient "kitchen size" containers. Thus, the pepper is furnished not in a single large container, but in six 4-oz. cans.

For certain components, the overseas container is identical with the one used for retail sales in this country. An ordinary paper-covered box, for example, contains the cornstarch and the seasoning sauce is in a glass bottle which goes through unbroken, thanks to the protective fibreboard sleeve in which the bottle is encased.

With these two exceptions all components are packaged in metal cans which provide effective moisture protection even after the unit's outer kraft bag has been unsealed. This is particularly important for dehydrated substances such as bouillon cubes and lemon powder. Some of the spices, like pepper and sage, are supplied in the same familiar shaker-top lacquered cans in which the grocer sells them, with lithographed trademarks and other information. Other items, including the baking powder, are furnished in special procoated cans,

Both packaging methods make paper labels unnecessary, thus decreasing the danger of rust and also assuring that the components will still be properly identified even if in a forward area the cans should be subjected to the thorough soaking of a tropical rainstorm.

One kitchen spice pack contains assortment of spices, flavorings and condiments sufficient to supplement 1,000 rations. Note fibreboard box which is inserted and sealed in laminated kraft bag and over-packed in wood. At present, box contains 15 components but possibly more will be added.



WINE LABELS

they can't be lazy!

1—*At the rear are shown five of the pre-standardization bottles used for 14 types of Danforth Wines. The bottle in the foreground is the wartime standard container for all wines. All bottles are 26-oz. capacity.*

The formula for sales success in normal merchandising operations has by now been standardized. Take a good product, competitively priced, package it well, label it nicely, add market research, sales promotion, display and advertising. That's all. Each piece of merchandising machinery is integrated with the others and carries some responsibility for the success of the formula.

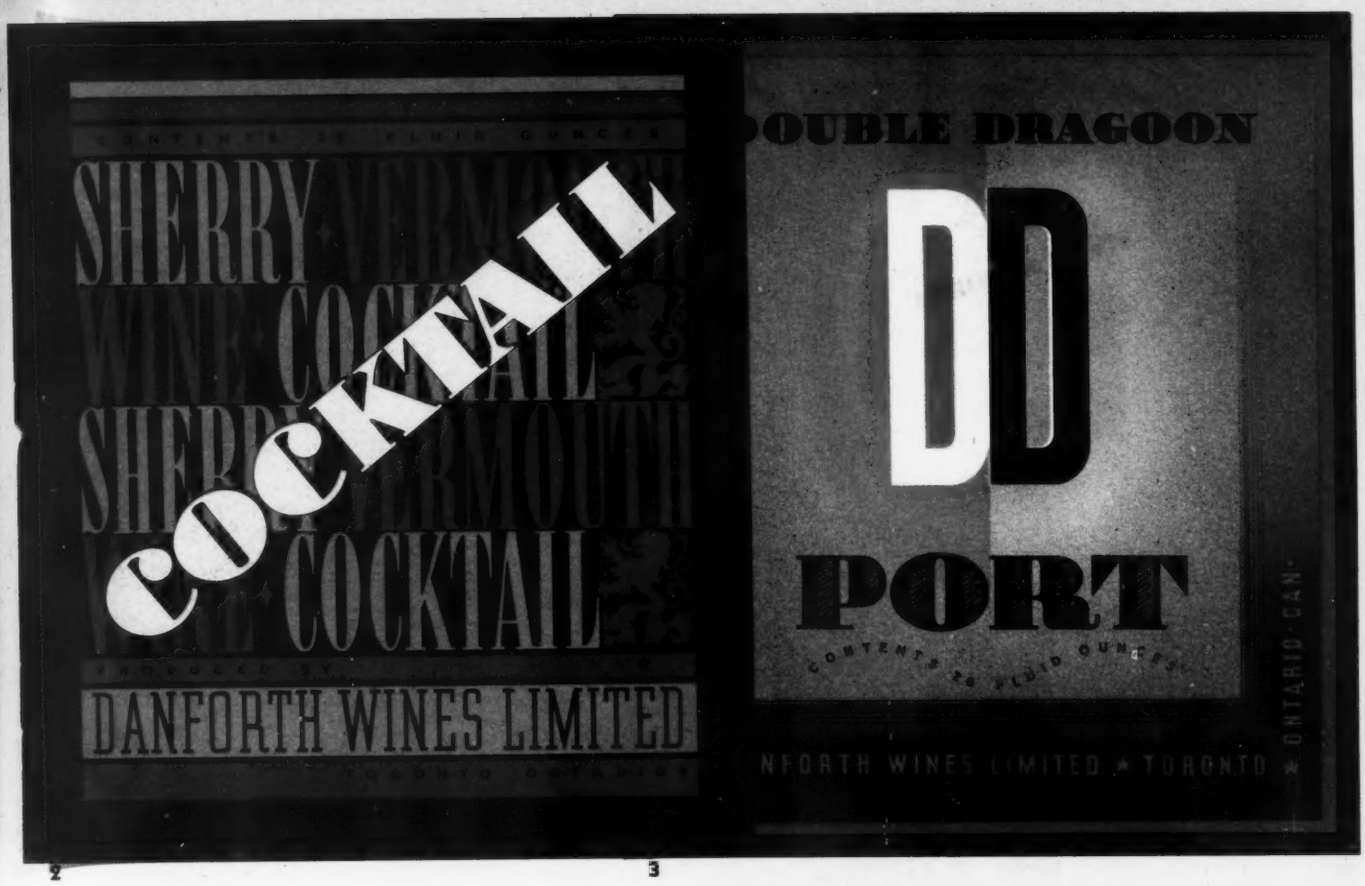
If we take away sales promotion, display and advertising, a much heavier burden is placed on the other elements in the formula. And if we standardize packages for the whole industry and cut market research to a wartime minimum—we're left with a label. That label will have to be good. It cannot afford to be lazy!

Such a case is illustrated by the spectacular rise of Danforth Wines, Ltd., Toronto, from the newest and smallest of Canadian wineries in 1926 to a position among the leading producers in its field today. Neither this line nor any of its competition is permitted any advertising, display or sales promotion. Wine bottles were standardized in Canada during the war. Yet, until quotas were set for all producers, Danforth wines forged ahead in the face of clean and unusually smart competition.

In the Province of Ontario all wine sales (now on ration coupons) are governed by the Liquor Control Board. Some sales are made through winery-owned retail stores in urban centers, but most are made through stores operated by the Board in which no display or advertising is permitted. The Board's policy demands quality wines and has, in addition, encouraged tastefully designed packaging. In a "minor luxury" field, where competitive merchandising practices are thus limited, labels must have terrific remembrance value.

Danforth Wines, Ltd., is a family concern. Fred Torno was one of the founders and today the firm is managed by him and his sons. And the family has developed in recent years a philosophy relating to wine production and merchandising which has profoundly affected its slant on labels. That philosophy, although seldom expressed in words, amounts to this: In good wine, value and maturity and dignity and quality are expressions of the integrity of the maker. Wine is *old!* And when old wine is packed under new labels the labels must express value, quality, maturity and dignity. The Tornos would hesitate to put a wine bottle in cellophane because that would give it such a "new" appearance.

The Danforth wine labels have always been good, but,



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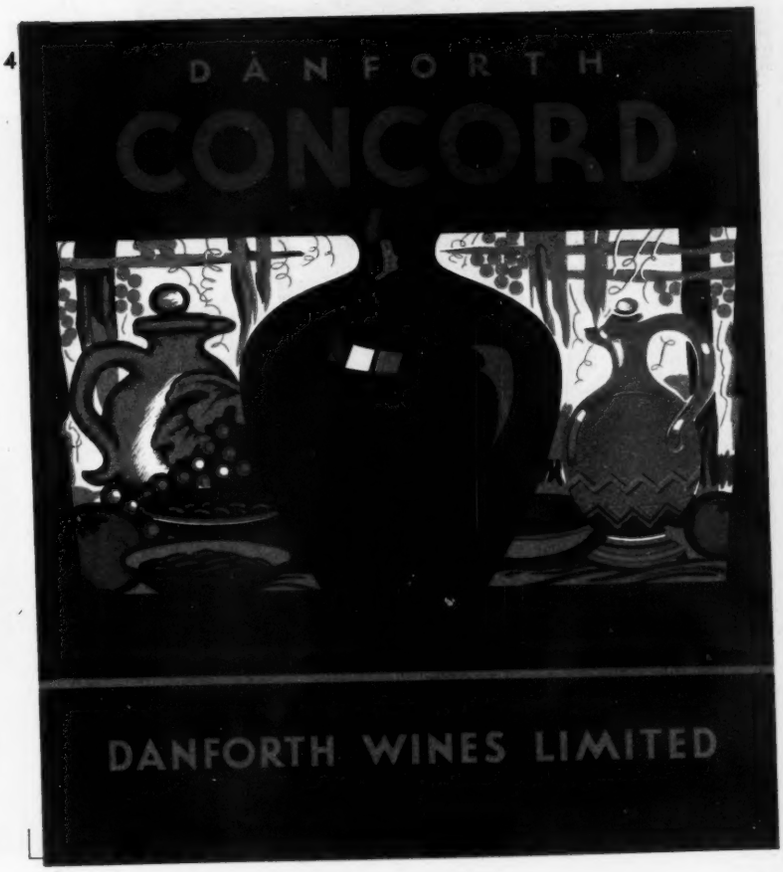
2, 3 and 4—These actual samples are typical of the 14 labels in the Danforth Wines line, all of which embody the producer's theory that a good label for wine must convey the impression of value, quality, dignity and—especially—age. How well these aims have been achieved, without loss of modern eye appeal, is shown by these samples. All labels are run on one sheet of special offset paper, using ten special inks.

after the company had firmly established itself in the field, it was felt in 1940 that a complete new series should be produced, putting into practice the philosophy gained by the family, for the purpose of consolidating customer good will. This exceptional series was the result of a number of designs evolved by a combination of people and finalized by artists. Selection of bottle molds, cap design, label shapes, paper, inks and label designs was made with the Torno philosophy in mind, although the most modern materials, design structures and methods were used to produce them.

Colors had to be soft and "aged." So a firm of lithographers was consulted and ten litho shades rich enough for the purpose were decided upon. These shades were used in various combinations on 14 labels, some of which carried all ten colors while some carried as few as four. Paper had to be soft and textured. A special offset paper was used because of its texture and opacity. Actual labels illustrating the special colors and paper are shown herewith as Figs. 2, 3 and 4. The labels were all run on one sheet, and originally took eleven months in production from drawing board to delivery.

Fig. 1 shows in the background the five basic bottles used up to the time of standardization, with the wartime standard bottle in the foreground. The short bottle (center rear) was produced in amber only and was cork finished. The long and



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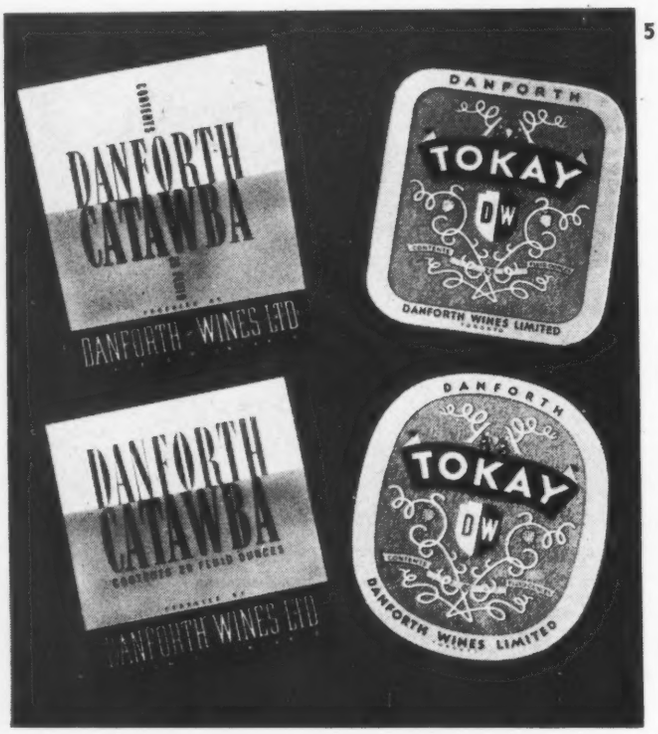
medium bottles were made in flint and amber, both with continuous-thread finish. Dark labels were used on the flint bottles and light-colored labels on the amber.

Bottle shoulders were provided with a circular depression in which a medallion was used. These were .003 brass with a paper gum backing, embossed and decorated with a special gold finish. Caps, before wartime restrictions took effect, were double 28 mm. C.T. shellback, decorated black on red, with pulp-vinyl liner and an acid-resisting white coating inside. On the wartime bottle, caps are single, full-dome knurled, 28 mm. C.T., with pulp and oil liner and coated inside with acid-resisting gold.



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The new packages were introduced to the consumers late in 1940, immediately before the Christmas trade began. There was no gradual change-over, so the new packages were introduced without competition from the old, although some of the old packages had fair acceptance. Brand sales in the new packages reflected steady volume growth until the advent of government-ordered rationing in December 1941 when sales were stabilized.

However, during the period when these brands were sold competitively, remarkable sales records were achieved by some. The Club Sherry label is largely credited by the company for doubling the sales of the product in the first year and increasing it even more in the second year, while no other brands in the line slipped. Fig. 6 illustrates the package history of this brand. Other varieties in the line showed increases almost as great.

When wartime standards were established for wine bottles, the entire label line had to be redesigned to the shape of the new glass. Medallions were eliminated and single shell caps were substituted. How cleverly this was done without wrecking the continuity of design in the line nor in any way affecting the remembrance value of the labels is apparent in Fig. 5.

If and when special mold bottles are once again available, it should be no great problem for the Danforth company to re-adapt these labels to special shapes and sizes. It would simply be a reversal of the standardization process, with the same basic designs being fitted once again to different proportions.

Old wine in new packages needs good labeling at any time. But when the burden of sales increase depends on the labels—those labels can't be lazy!

CREDITS: *Labels designed and printed by H. J. Jones Sons, Ltd., London, Ont. Paper by Rolland Paper Co., Ltd., Montreal. Inks by Sinclair Valentine Co. of Canada, Ltd., Toronto. Bottles by Dominion Glass Co., Ltd., Montreal. Caps by Anchor Cap & Closure Corp. of Canada, Ltd., Toronto. Medallions by Stanley Manufacturing Co., Ltd., Toronto.*

6

***5**—Above, pre-standardization labels for two items. Below, same labels redesigned to suit war-time standard bottles. Note "squaring" of topography in Catawba label, "expansion" of design in tokay label. **6**—History of a label. Prior to 1932 square label on left was used on round, tall bottle. From '32 to '39 varnished cut-out label—on embossed flask. In '40 new label was introduced on tall, medallioned bottle. Colors: tawny brown, antique ivory, pale green. This is label which doubled sales in a year. After standard bottle was introduced (right) label was squared, broadened, shortened to fit*

Cadillac parts... in streamlined dress

A representative group of the new cartons for Cadillac parts, showing how the Cadillac name and crest have been used to advantage. Note the spaces provided for stock numbers. The bright red and midnight blue bands above the picture are the identical colors used in all of Cadillac's redesigned packages.

Brilliant colors and modern lines characterize the redesign of Cadillac Motor Car packages for replacement parts. The ambitious program, covering many types of packages and hundreds of parts items, has the twin objective of boosting sales appeal and increasing convenience and utility for the dealer.

The program includes the redesigning of all parts labels, envelopes and small paper cartons.

Label colors chosen are bright red, white and midnight blue, arranged in simple, streamlined design, uniform for all packages. The design was worked out by Cadillac artists, who were assisted in adapting the design to actual production by the several package suppliers.

The packages previously were maroon with an all-over, impressionistic design traced rather faintly in white. Although this design was attractive, it was felt that it did not sufficiently play up the Cadillac name and trademark—the familiar crest which appears on the nameplate of the cars. The new design not only brings out these elements brilliantly but it plays up "genuine *Cadillac* parts."

Convenience for the dealer is provided in white panels on each label on which part names, numbers and group numbers are plainly printed. Rubber-stamping of such information, which may not always be legible, has been reduced to a minimum.

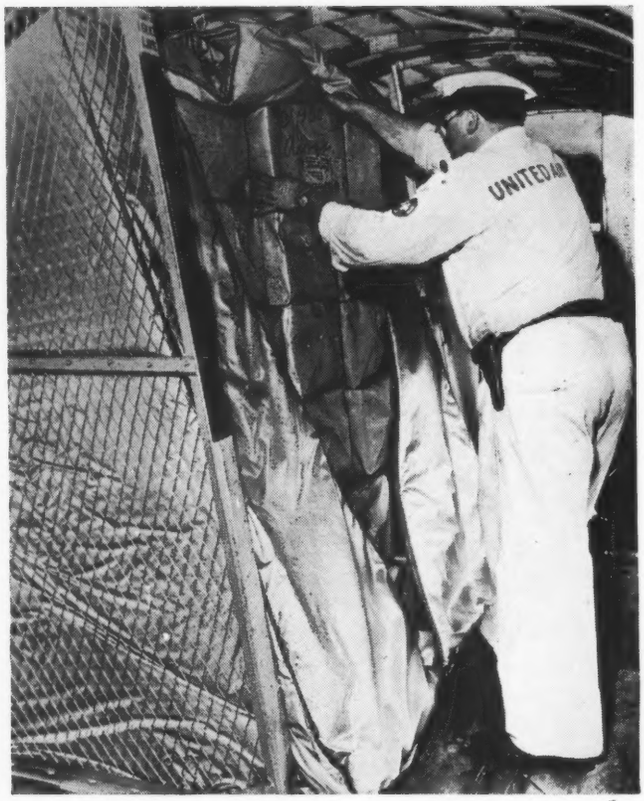
Unitization of parts in "sets" is being accomplished wherever practical. For example, connecting rod bearings and pistons formerly were packaged only in individual cartons; now they will also be available in "set" cartons containing all the quantity necessary for a complete job. Pistons, similarly, are available in packages of eight. When a package contains more than one part, this is clearly stated on an important face of the container.

An active merchandising program is being integrated with the package redesign. Dealers are being informed about the new "sets" packages and are instructed in setting up displays to take advantage of the new eye appeal. Effective display use of the new packages on shelves and in bins that may be in view of the parts-counter customers also is suggested. Dealers are urged to keep all packaged parts in their original containers until they are sold or disbursed to the shop, in order to preserve as long as possible the shelf-display value of these carefully thought-out packages.

Due to shortages, it has not been possible to make a complete change-over to the new packages, but as existing stocks in the old design are used up they are being replaced with the new packages.

Parts managers are instructed to sell first those parts which are in old packages, in order to hasten the time at which their department will present a uniform and attractive package display planned to make the merchandising job easier.

CREDITS: *Cartons by Paper Package Co., Indianapolis. Envelopes by Wolf-Detroit Envelope Co., Detroit. Labels by Wolf, Inc., Detroit.*



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2

1—Showing how the zippered compartment is installed in an airliner cargo pit and is then loaded with 35 boxes of fresh gardenias. 2—Five slabs of dry ice are inserted in the pockets provided at the top of the container. The walls are an inch-thick construction of Fiberglas coated with a vinyl-aluminum film.

Refrigerator . . . for perishable air cargo

A novel "package refrigerator" for airborne perishables has been developed for trial use on United Air Lines' Cargoliners which operate on regular daily round trips from coast to coast.

The special compartment, refrigerated by dry ice, is a large flexible bag with walls 1-in. thick, composed of Fiberglas insulation covered with Fiberglas cloth and coated with vinyl. The experiment is part of a program to determine the most effective methods of handling airborne shipments such as choice cuts of meat, sea foods, medicinal serums, flowers and certain fruits and vegetables. Its success will simplify the problem of unit containers for such airborne products.

Protection of such shipments while in transit has in the past been accomplished by maintaining a fairly constant temperature within the cabin of the cargo plane or by the use of package "icer" units for individual shipments. For instance, penicillin is transported in 100-lb. shipments, with dry ice accounting for approximately half the weight.

The airline's cargo experts say the new package refrigerator will eliminate the need for such special packaging. Constructed to fit into the large cargo pits of the company's Cargoliners, the refrigerated container was designed to facilitate the transporting of less than plane-load lots of perishables by eliminating the need of temperature control for the entire cabin of the plane. In addition, odors of flowers, fruit or sea food are confined within the compartment, thus having no effect on, and being unaffected by other near-by shipments.

While it has a capacity of 120 cu. ft., the container weighs only 25 lbs. and will accommodate shipments up to 1,600 lbs. It measures approximately 75 in. wide, 40 in. deep and 75 in. high. The top is constructed with five pockets to accommodate slabs of dry ice 1-in. thick and 10 in. square.

When not in use the container can be rolled up and stored in a space approximately 75 in. long and 14 in. in diameter.

The container is silvery in appearance because aluminum is dispersed in the vinyl coating applied to the glass fabric. Fiberglas mat insulation $^1/_2$-in. thick and weighing about 10 oz. per cubic foot was placed between two thicknesses of the vinyl-coated Fiberglas cloth. The pliable coating of pigmented vinyl resin is not only fire resistant but also acts as a vapor barrier.

The Fiberglas cloth was stitched with heavy linen thread and all edges were turned and bound on the outside with a heavy canvas tape. To suspend the container in the cargo pit, four lateral rows of small rings, five rings per row, were sewn to the top of the container. Through these rings five steel rods were inserted and the rings in turn were fastened to cargo net tie-down rings in the ceiling of the plane.

Access to the interior of the experimental container was made possible by a zippered "V" running from the floor to the two top edges of the front side. This type opening, however, was found inconvenient for cargo handling and the con-

tainer is being redesigned so the entire front can be rolled up during loading and unloading operations. In addition, the redesigned container will provide a zippered opening along the top for re-icing without opening the front flap.

The container first was tested inside a hangar at San Francisco. It was hung on a temporary framework and dry ice was inserted at 10:15 P. M. when the outside temperature was 66 deg. F. By midnight the temperature inside the container had dropped to 32 deg., although the outside temperature was 60 deg. A relatively constant temperature was maintained until all the dry ice had been absorbed seven hours later.

An inspection of the interior of the pit indicated a formation of frost on the inner faces of the pockets to a thickness of approximately $^1/_4$ in. by 8 in. square. This was noted at the end of the 12-hour test period. For the last $5^1/_2$ hours the entire rear face had been exposed to the direct rays of the sun.

Because of the success of this test the container next was installed inside a Cargoliner pit. Thirty-five boxes of gardenias, weighing 6 lbs. per box, totaling 1,440 gardenias, were flown by air express on a non-priority basis from San Francisco to Chicago at altitudes between 9,000 and 11,000 ft.

Five slabs of dry ice, totaling 23 lbs. were inserted at San Francisco. Just west of Denver two more slabs were added and at Omaha an additional five slabs were inserted. These were placed in the container at Omaha mainly because the outside temperature and cabin temperature ranged as high as 102 deg. Inside the container, the temperature never rose above 52 deg. Cabin temperature remained at 100 deg. while the ship was on the ground for almost 30 minutes. Despite these high temperatures, 9 lbs. of dry ice remained in the pockets at Chicago.

The following is an excerpt from United's engineering report on the flight: "Upon unloading the flowers, an inspection was made in an attempt to determine their quality. Thirty-four boxes had been placed in the insulated pit and the other box was kept in the open cabin. The flowers in the single box were dehydrated to the extent that the stems were dry, while those in the refrigerated pit were moist and fresh with droplets of moisture present on each stem."

In loading, it was found that adequate circulation was provided by "staggering" to allow air space within the unit.

In the experimental flight, the gardenias were packed in standard air-express gardenia cartons, then wrapped in heavy brown paper held in place with ordinary paper adhesive. It is believed, however, that any standard type air-express container such as a wire-bound or cardboard box could be used.

United presently is investigating tie-down possibilities inside the container and studying methods of venting to draw off carbon dioxide gas formed by evaporation of the dry ice.

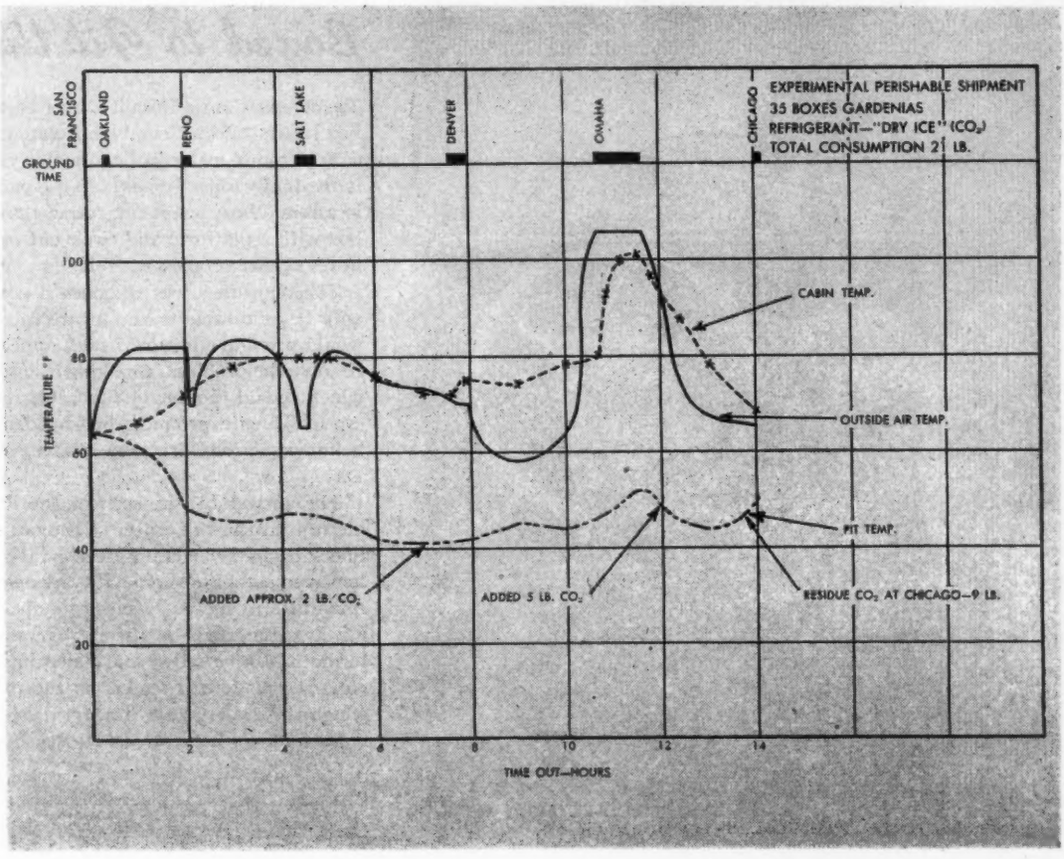
Dry ice was chosen as a refrigerant because of its light weight and convenience. It is easy to handle and is readily available at flight kitchens located at strategic points along the coast-to-coast airway. Natural ice was not so satisfactory because it requires a larger amount and weight to maintain a given temperature and creates a problem of water disposal.

Airline cargo men feel that the "package refrigerator" has numerous possibilities, not the least of which are its ability to be pre-loaded at the source of supply, then moved to the plane with the use of a pallet. Because of the narrow door of today's twin-engineed DC-3's, it is not now possible to pre-load, but this will not be a factor in specially designed planes.

According to United's air cargo officials, the company is experimenting with other types of refrigerated units and containers. As soon as its studies are complete, the airline expects to equip its entire Cargoliner fleet.

CREDITS: *Refrigerated container developed by United Air Lines in collaboration with Owens-Corning Fiberglas Corp., Toledo. Vinyl coating by Electro-Technical Products, Inc., Los Angeles. Fabrication by J. L. Stuart Manufacturing Co,. San Francisco.*

3



3—*Graph shows temperature performance on experimental gardenia shipment from San Francisco to Chicago.*

Merchandising Beverages

Beverage companies throughout the country have been hard hit by the current sugar shortage and because of this many have curtailed their merchandising activities. An exception was Boller Beverages, Inc., Elizabeth, N. J., who decided that now is the time to expand the good will the company enjoys and to merchandise its beverages aggressively.

How successful the program has been so far is shown by the fact that 800 new accounts have been opened in one city alone. This success has been sparked by the newly redesigned Boller labels and full-color lithographed displays. The upper photo shows three of these new label designs. The Pale Dry is vermilion, buff and green; Wild Cherry is two shades of cherry and green; and Birch Beer is vermilion, buff and brown. The bottle at the extreme right shows the old design. It will be noted that the new design brings out the firm name and, that, added to the vivid color schemes, makes each bottle a striking individual piece as well as a complement to any one of the other nine designs in the line.

The lower photo shows the final display which was selected. After experimenting with both vertical and horizontal displays the designer finally chose this vertical because it fits more easily into all types of windows and other display spaces. The simple die-cut shape makes the piece an easy one to handle without fear of damage.

CREDITS: *Designer of labels and display, Thomas D'Addario, New York. Oil painting, Ernest Baumann, New York. Lithography on display, Industrial Lithographic Co., New York. Labels, The National Color Printing Co., Inc., Baltimore, Md.*

DESIGN

Boxed to Fit the Season

The Transatlantic Biscuit Co. of New York is introducing a new box for its "Frou Frou," chocolate-covered hazelnut croquettes, a large round wafer-like confection cut into ten wedges and each individually foil wrapped. In the past, these wedges were packed in a round box, but it was found that, due to shortages, a square box with a platform and circle cut-out could be used until round boxes again become available.

The main task was to create a cover design which would not only be adaptable to the future round container but one which would provide additional sales appeal. The designer was asked to solve the problem of making a simple, fairly inexpensive design which could compete favorably with other merchandise—especially with products packaged in special seasonal boxes for holidays such as Christmas, Easter, Valentine's Day and Mother's Day.

The answer can be seen in the illustration. A bow holds a picture card in the center of the box. The colors are brilliant—Shocking pink, emerald-green and yellow on black. This card, however, can be covered with any one of the stickers shown below to transform the package into a special holiday gift offer. The angel on the Christmas sticker is unmistakable; the heart serves for both Mother's Day and Valentine's; the lamb tells the Easter story. The fourth sticker is the original design by means of which the dealer again transforms the product back to everyday merchandise when the holiday season is over.

CREDITS: *Designer, Emmy Zweybruck, New York. Box, Paragon Box Corp., Brooklyn. Foil, Standard Rolling Mills Inc., Brooklyn.*

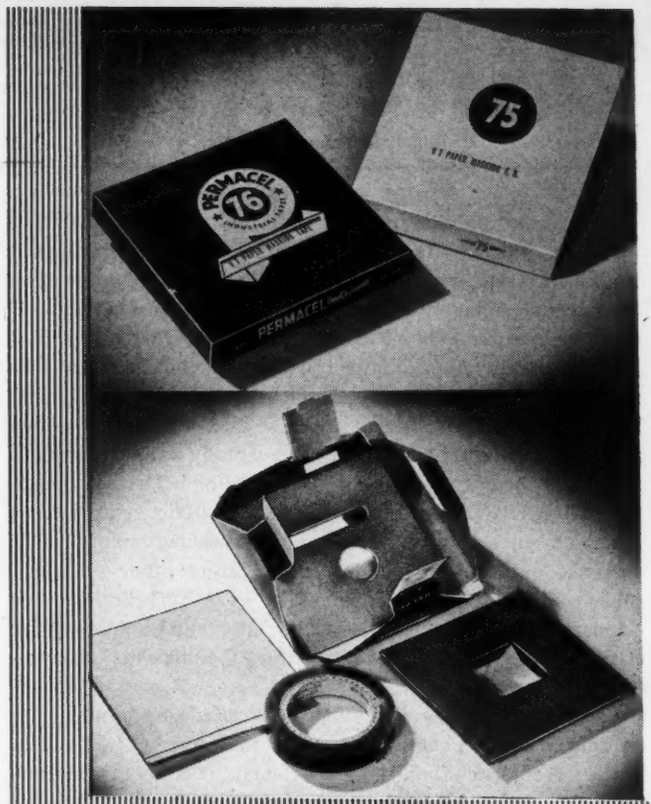
A Changing Face

A single piece of scored paperboard forms the outer carton for all the 3/4-in. industrial tapes put out by the Industrial Tape Corp., New Brunswick, N. J. Merely by changing a paperboard insert, the carton can be used for any one of the 50 possible tapes for various uses which this company intends to package in this manner very soon.

The front and one edge of the carton are cut out, with the cut-outs incorporated as an integral part of the design pattern. As each of the different tapes is packaged, a separate, scored care is inserted which is printed with the number and name of the tape enclosed. The large circular opening on the face of the carton allows the reverse-printed number to show through, while the cut-out parallelogram beneath shows the name of the tape. The number is repeated in smaller type on the insert and this number appears again through the cut-out along one edge of the folding carton. Therefore each tape can be identified immediately whether it be stacked one on top of the other or standing upright on a shelf. The color scheme has been restricted to maroon and white, making the production of the carton a relatively inexpensive procedure.

By adopting this type of packaging Industrial Tape Corp. has achieved more than just an inexpensive carton. One carton serves for all the tapes with a separate insert printed for each. In addition, stocks of the cartons and inserts can be stored flat until needed, taking up less than half the space ordinarily required for set-up containers.

CREDITS: *Designer, Egmont Arens, New York City. Box, Robertson Paper Box Co., Inc., Montville, Conn.*



HISTORIES

Musical Scents

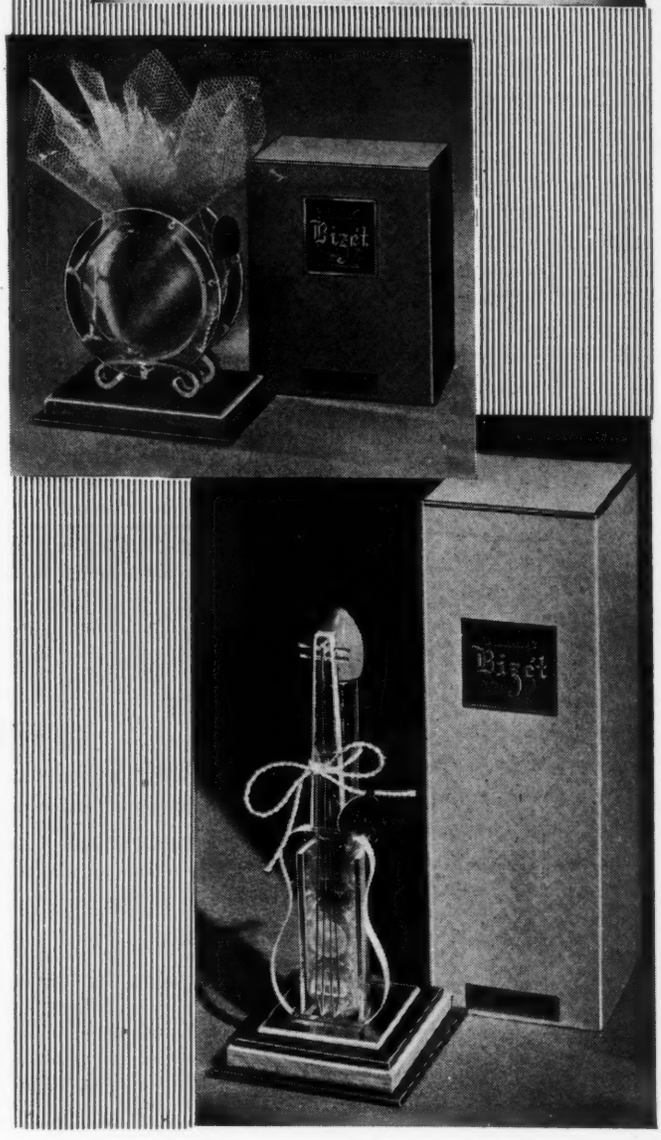
Musical moods accent the fragrance in the new line of perfumes, sachets and colognes recently introduced by Bizet, Parfums. The containers which hold the products are formed in the shape of guitars, banjos, drums and lyres. These fanciful musical instruments are made of transparent methyl methacrylate, some of them dyed in pastel shades.

The upper photo shows the sachets, tied into a pastel-colored square of net and slipped into a plastic drum. The drum is laced with white silk cord and is displayed on its own base. The cologne in the lower photo uses a guitar-shaped container. The strings are of imported metallic thread; the bow, white silk cord and the cap, wood, painted in a brilliant color.

Both products are packed in fancy paper-covered set-up boxes decorated with an embossed metallic seal and label in gold and brilliant colors. These colors are repeated in the trim of the outer wraps and again in the base upon which the product rests.

The merchandising idea behind these rather elaborate packages justifies the time, effort and expense of producing them. They are being promoted as re-use containers of unusual appearance. The guitar, for example, can easily be used as a bud vase, while the other instruments can serve as cigarette cases, jewel boxes or just as pieces of decoration.

CREDITS: *Designer, Renee Raymond, Los Angeles, Calif. Set-up boxes, Herring Paper Box Co., Los Angeles, Calif. Labels, Pacific Label Co., Los Angeles Calif. Bottles, Swindell Bros., Inc., Los Angeles, Calif. Lucite, E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del.*



DANGER! . . . and how it is met

The recent publication by the Manufacturing Chemists Assn. of "A Guide for the Preparation of Warning Labels for Hazardous Chemicals" may have little direct impact upon the general public, but it is extremely significant for the packagers of industrial chemicals.

Inadequately labeled dangerous bulk chemicals do not constitute a hazard for the average citizen, for it is unlikely that he will come into contact with these raw substances. They appear on the shelf of a retail store usually as ingredients of medicinals or cosmetics. The Federal Food, Drug and Cosmetic Act, enacted for protection of the public, requires that labels on such retailed items contain statements concerning presence of dangerous ingredients. Many other products, sold to individuals but not under FDA jurisdiction—dry cleaners for home use, chemicals for amateur photographers, etc.—carry label warnings concerning flammability or other hazards present.

Laws and practices pertaining to the labels a producer puts on containers of chemical raw materials have usually been much less rigorous than those for the end products. Because the purchasers of the chemicals are usually manufacturers rather than private citizens, chemical producers have frequently considered it unnecessary to furnish detailed precautions on the bulk containers in which they supply such materials. Chemical names provided sufficient warning for trained chemists who were familiar with the products. However, a great many people who have had no chemical education—transportation company employees, warehousemen, repackers and distributors, as well as unskilled laborers in the purchaser's plant—do come into close contact with such chemicals and may be endangered by lack of knowledge.

The largest group so endangered is the personnel of the company purchasing and using the chemicals. These companies, in attempting to prevent accidents, may see that buildings are constructed in accordance with safety principles, that they are well lighted and adequately ventilated. They may provide their employees with protective clothing, gloves and masks. But unless the workers understand the purpose of their protective equipment and use it, the safety precautions are inadequate.

An all-too-representative incident, illustrative of this fact, occurred not long ago in the plant of an established firm which began to use a new chemical ingredient in one product. Almost immediately several men were taken to the hospital with severe burns which appeared after they had been handling the unfamiliar chemical without gloves. A potentially serious personnel problem was involved. Other workers might become uneasy about working on the product. If the word spread further, prospective employees would probably think twice before applying for such "dangerous" work.

Company officials questioned the injured men, all of them experienced workers, as to why they had been so careless when dealing with such a corrosive substance, particularly since the drums were very plainly labeled "Poison!" There was a similarity about the replies. It was a nuisance to work with gloves and the men didn't think they needed them. Yes, they had noticed the drums were labeled "Poison," but had thought that meant not to drink the contents. After all, they had been handling chemicals marked "Poison" without gloves for years and nothing like this ever happened. How were they to know this one was any different? They thought someone should have told them which precautions were necessary for this material and how to handle it.

The Manufacturing Chemists Assn., the trade association for the chemical producers, has for some time been issuing pamphlets of instructions on proper handling and storing procedures for various types of chemical containers. Supervisors who studied these booklets could pass the information along to workers. Most companies also had some kind of an educational course for new employees. But evidently, since accidents were occurring, such programs were not enough. Either the employee "forgot" the warnings he was given during his training period, or he did not properly distinguish between the different chemicals.

1

HYDROFLUORIC ACID

DANGER! **CORROSIVE LIQUID • HAZARDOUS VAPOR**

Causes severe burns which may not be immediately painful or visible

Do not breathe vapor • Do not get in eyes—on skin—on clothing

DRUM HANDLING AND STORAGE

KEEP CLOSURE UP to prevent leakage.

KEEP DRUM OUT OF SUN and away from heat, oil, grease.

RELIEVE INTERNAL PRESSURE when received and at least WEEKLY thereafter by slowly loosening closure. Retighten immediately.

NEVER USE PRESSURE TO EMPTY.

KEEP LIGHTS, FIRE AND SPARKS AWAY from drum openings.

DRUM MUST NOT BE WASHED OUT or used for other purposes.

REPLACE CLOSURE after each withdrawal and return with empty drum.

IN CASE OF SPILLAGE flush with plenty of water.

FIRST AID in case of contact or suspicion of contact:

Immediately flush skin (until whiteness disappears) and eyes (for at least 15 minutes) with plenty of water, paying particular attention to skin under nails • Get medical attention • Avoid use of greasy ointments • Remove and wash clothing before reuse.

M. C. A. OF U. S. FORM 10 PRINTED IN U.S.A.

1—Label for hydrofluoric acid is good example of new technique; includes precise statement of hazards, instructions for handling and first aid.

Psychologists tell us that learning is reinforced by repetition and that, other factors being equal, best remembered statements are those most recently presented. One way to decrease accidents, then, would be to repeat the instructions frequently, to tell a worker in effect, "Be careful not to get that on your hands," every time he used a corrosive acid. The only practical way to do this was to utilize the label on each container to disseminate the information and warnings.

An additional advantage of precautionary labels would be that they would also warn all the people who saw them between the producer's and the user's plant—in fact, every person who handled even a single container and was thus endangered by its contents. Even a very extensive educational program could not reach so diversified and scattered a number.

However, the labels, themselves, needed improvement. It was true that the burned men in the case cited earlier had seen the label, but nevertheless they had been burned, because that particular label did not supply the particular information they needed.

It was along such a line that the Labels and Precautionary Information Committee of the Manufacturing Chemists Assn. began its attack on the problem a year ago. After studying past labeling practices and experiments, the committee, whose members included chemists, packaging engineers, toxicologists, lawyers and physicians, began conducting its own investigations.

At the end of a year, certain fundamental principles had been established and members felt that their study of the problem, while it had not reached completion, was far enough advanced to warrant summarizing their findings for the benefit of the industry, in a manual entitled "A Guide for the Preparation of Warning Labels for Hazardous Chemicals." They also prepared a corollary pamphlet of sample label cautions for 70 representative chemicals, to which others will be added from time to time. Included are suggested labels for experimental chemicals, the exact hazards of which have not yet been determined. By following the procedures outlined in the Guide, a producer should be able to devise his own labels for products not included among the 70 samples.

First step in the preparation of a precautionary label for a hazardous chemical is determination of the particular danger or dangers present. Committee members felt that one of their most important tasks was to see that producers and users were aware of the distinctions between possible types of hazards and knew which was applicable in a given case. One substance might be "poison" to breathe; while still another might be dangerous only because of its extreme flammability.

There are, of course, countless degrees of risk involved with any of these different kinds of danger. The committee recognized this. For certain types of substances they set definite thresholds of hazard, below which precautions are considered unnecessary. For example, no warnings are deemed necessary for flammable liquids with a flash point above 80 deg. F.

Granting the importance of these two principles of qualitative and quantitative differences in danger, there remains the problem of terminology. What words should be employed to indicate the various kinds and degrees of hazard? It was in this field that much of the work of the committee was concentrated.

Since one of the chief advantages of a label caution is that its message can be comprehended instantly without the study and effort exerted in remembering a lecture or reading a manual, it is essential that ambiguity of wording be avoided.

2

CONTENTS FLAMMABLE

TRANSPORTATION COMPANIES:

KEEP BUNGS TIGHTLY CLOSED
KEEP DRUM OUT OF SUN AND AWAY FROM HEAT

CONSIGNEE:

KEEP BUNGS TIGHTLY CLOSED
KEEP DRUM OUT OF SUN AND AWAY FROM HEAT
DO NOT EMPTY THIS DRUM BY PRESSURE
REPLACE BUNGS AS SOON AS DRUM IS EMPTY
KEEP NAKED LIGHTS AND FIRE AWAY FROM DRUM

THIS DRUM IS NOT RETURNABLE

M.C.A. OF U.S. FORM D-38-A PRINTED IN U.S.A.

2—MCA considers warning "flammable" better than "inflammable." This label, modified to include the chemical name of product, is applicable to many flammable products.

3

CONTENTS DANGEROUS

BEFORE MOVING CARBOY BE SURE STOPPER IS SECURELY FASTENED
KEEP OUT OF SUN AND EXTREME HEAT
NEVER USE PRESSURE TO EMPTY

AVOID CONTACT WITH SKIN—DO NOT BREATHE FUMES
ABSORB SPILLAGE WITH DRY SAND, ASHES OR EARTH

COMPLETELY DRAIN CARBOY BEFORE RETURN

IF INJURED BY CONTENTS, USE WATER FREELY AT ONCE AND OBTAIN MEDICAL TREATMENT IMMEDIATELY

M. C. A. OF U. S. FORM C-5 PRINTED IN U.S.A.

3—This label is applicable to a number of dangerous chemicals shipped in carboys, and includes general cautions, first aid instructions. In use, name of chemical is added.

In the interest of consistency and clarity it was suggested that trade names and code designations be replaced by chemical names recommended by the American Chemical Society. In addition, the Labels and Precautionary Information Committee established definitions for a list of common terms, including "corrosive," "irritant," "sensitizer," "dusts" and "vapors." In place of "inflammable," as defined by the Interstate Commerce Commission, the committee prefers the word "flammable," since in many cases the prefix "in" has the connotation of "not."

Among the most interesting conclusions of the committee were its findings with respect to the widely used word "Poison." Investigation proved that this term as currently used was unsatisfactory. It did not properly indicate either the kind or the degree of danger present. Therefore, except where law or common association dictates its usage, it was decided "poison" should not be used.

In the past, manufacturers of chemicals used the word "poison" to indicate many types of hazards. Yet the man who saw the word usually associated it only with single-dose oral toxicity. To replace this one-word general identification, the committee suggests a number of words and phrases from which the producer can select the one which most precisely describes the hazards of his product. Thus, where the danger is from contact, the selection can be made from a list

which includes "Corrosive Liquid," "Causes Burns," "Dangerous Because Absorbed Through Skin," and "Causes Skin Irritation." Even when the danger is oral toxicity, it is suggested that "May Be Fatal If Swallowed" is a term less subject to misinterpretation than the word "poison."

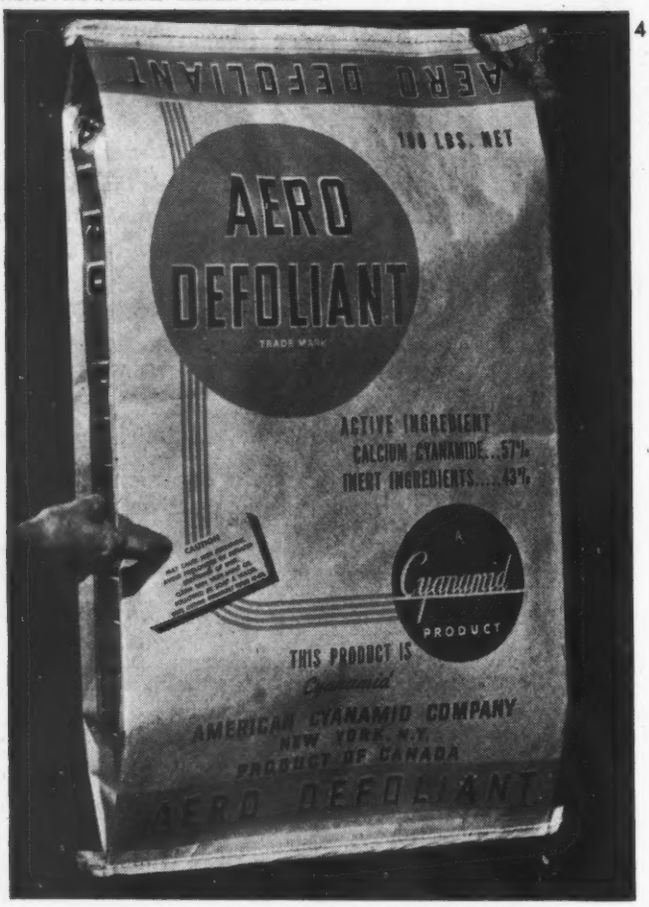
A further disadvantage of the traditional "poison" label is that it makes no allowance for difference in degree of danger. Under the present program such differentiation is achieved in two ways. The kind-of-danger statement can be qualified by adding a modifier like "extremely" or "may be." The other and most effective way in which such differentiation can be accomplished is by choice of a "signal" word. Despite the frequent misinterpretation and other drawbacks of the one-word "Poison!" signal, it did have the advantage of commanding attention which is not afforded by the more precise "May Be Fatal If Swallowed." In order not to sacrifice this advantage, it was decided to use, in addition to statement of kind of danger, an attention attractor.

For this role, "Danger," "Warning," and "Caution" were selected as arresting words, with a wide general applicability. Of these, "danger" was considered the most effective. But remembering the consequences of indiscriminate use of the word "poison," the committee realized that if the new term were to acquire real significance, labels must not cry wolf. Use of such a strong word in connection with a product whose specific warning read, "May cause skin irritation. Avoid prolonged or repeated contact," would lessen its effectiveness in cases of extremely hazardous substances. However, since the purpose of the signal word was to attract immediate attention to the rest of the label, it would have been unwise to go to the other extreme and introduce subtle variations.

Investigations by the committee tended to show that three quantitative distinctions could be readily made. It was found that most people could distinguish "danger," "warning," and "caution," as indicating hazard in lessening degrees. Standardization and repeated correct usage will clarify these distinctions still further, it is felt.

The MCA Labels and Precautionary Information Committee believes that the safety value of these labels will be greatly enhanced if, in addition to the signal word and the informative statement concerning the particular type and degree of danger, other information is included, permitting repetition of the same idea with several slightly different approaches. Thus, on labels for carboys of hydrochloric acid, the warning implied in the words "Caution! Causes Burns" is then reiterated in the command, "Avoid breathing vapor. Avoid contact with skin or eyes," and these are followed up by positive recommendations as to the correct way to handle and empty the carboy. Such handling instructions should be used to supplement training programs and the more detailed manuals published by the MCA on the handling of various types of chemical containers. But the average worker

PHOTOS 4 AND 5, COURTESY AMERICAN CYNAMID CO.



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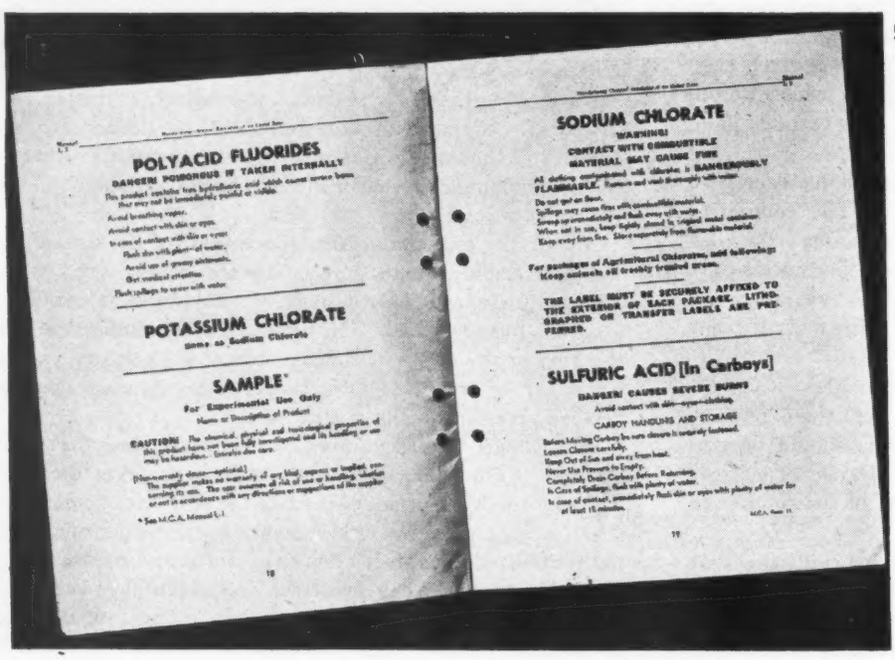


5

4—Showing how new approved caution label may be included in package design. Hand points to panel which says: "CAUTION. May cause skin irritation. Avoid prolonged or repeated breathing of dust. Clean skin with light oil followed by soap and water. Clean clothing thoroughly before re-use."

5—Typical pages from 22-page MCA Manual. Approved label wording for general classes of chemicals are presented, to be adapted with changes to a specific need.

is not likely to see these manuals and might not take time to study them if he did. The informative label furnishes a means of extending the most basic instructions to every worker and making them available to him when he needs them.

Finally, because accidents may happen occasionally in spite of all precautions, the suggested label for hydrochloric acid contains first aid instructions. Again, the advantage of the instructions is greater because they are available when needed. Workers may not remember them, but if they have been seeing these labels on every container they handle, they will know where to find the instructions.

All this supplemental information may add to the value of the label. On the other hand, unless the labels were well designed, and terminology brief and clear, the result might merely be a crowded and cluttered label, packed with information but too long to read and therefore useless. Committee recommendations include one for brevity. Sentence structure should be simple; vocabulary non-technical.

Commercial artists were hired to design the sample labels. Wording and statements to be included had already been decided upon, but committee members realized that such factors as arrangement, colors, size of label and size of lettering were important too. Many variations of these factors were tried. Five labels were designed for hydrofluoric acid, for instance, and the committee selected the most effective one.

Certain general principles concerning label design are being followed. The best—meaning the most effective—size for a label, it was found, is relative to the size of the container.

The importance of any word or statement may be emphasized by its nearness to the top of the label, use of contrasting colors, spacing, use of capital letters, and underlining, among other ways, and innumerable combinations of these methods are possible. By using any of these devices or a combination of them, it is possible to make the headings like "Handling and Storage" and "First Aid" stand out clearly so that the user need not read all of the label to find what he wants. Preferably, each handling and storage instruction is on a separate line with space between and key words of each instruction capitalized. Following similar principles, some labels direct certain instructions to the attention of transportation companies and others to the attention of the consignee.

Position on label is extremely important. Therefore, first aid instructions, rarely needed, are placed at the bottom or least prominent part of the label. Name of the product, it is believed, should go at the top of the label.

Earlier labels often omitted the chemical name and one label would suffice for several products for which the danger was similar. However, as a result of further study, warning statements are being made more and more concrete and are now seldom exactly the same for two substances. Presence of the chemical name on the label lessens the danger of incorrect labeling and makes the user more aware of the hazards.

The most conspicuous portion of the label, however, is reserved for the signal word, for it is this that is to arrest the attention and cause the user to read the rest of the label. Relative position on the label, size of letters, use of capitals, color contrast and exclamation point, all help to make it vivid. In close spatial relation, though slightly less outstanding, is the statement of the precise nature of the hazard.

Consideration is still being given to use of various color schemes to indicate difference of kind or degree of danger, but at present the background on recommended labels is white, most emphasized phrases are in red, and minor statements are in black. Bright red is also used on most labels as a border and as a contrasting background for the signal word.

AEROHEAT 920
THIS PRODUCT CONTAINS SODIUM CYANIDE
DANGER:
CONTACT WITH ACID LIBERATES POISONOUS GAS
AVOID BREATHING GAS OR DUST • AVOID SKIN CONTACT • KEEP AWAY FROM FEED OR FOOD PRODUCTS • KEEP CONTAINER CLOSED AND STORE IN A DRY PLACE
A Cyanamid PRODUCT
POISON
FIRST AID TREATMENT
AMERICAN CYANAMID & CHEMICAL CORPORATION • NEW YORK, N.Y.

6

6—This label is used on a steel drum containing a sodium cyanide product. The poison skull-and-crossbones symbol is retained but otherwise the label follows the new recommendations, including detailed first-aid data.

To date, co-operation with the Manufacturing Chemists Assn. on its program has been wholehearted. Chemicals producers are glad to benefit by the thorough study the MCA has given the matter, for by using the recommended labels they can decrease the dangers involved in using their product. Manufacturers receiving chemicals so labeled know that their employees are more adequately protected and that some of the problems of training and supervising them are simplified. Labor organizations and individual laborers have indicated approval. Health departments also applaud the program. Such acceptance and willingness to cooperate, particularly on the part of the producers, is essential if the program is to succeed, for no legal enforcement is possible. Lawyers on the committee emphasize that the recommended labels should supplement statements required by law, rather than supersede them, although in most cases the labels adopted by the trade association are far more stringent than those required by the ICC or state laws.

The precautionary labeling problem is certainly important enough to merit the continuing consideration which the MCA is giving it. Not only on the question of color, but also on other aspects of the labeling situation, the Labels and Precautionary Information Committee is still experimenting. It directs attention of producers to the fact that a good label deserves a good adhesive and a weatherproof coating, so that contents will continue to be identified and described.

The labels suggested by the committee in the past have been modified and those recommended today may very possibly be modified tomorrow in accordance with experience gained in using them. The committee intends to revise its manual of suggested sample labels and add to it. By following principles outlined by the committee, an individual manufacturer may develop his own labels for other substances. However, the committee feels that whenever possible it is desirable that the producer construct his label from an appropriate combination of statements selected from its published list of three signal words, ten classifications of danger, and many warnings, for these have been proved effective.

DONALD DUCK super-salesman

The Donald Duck labels now appear on five different canned citrus products. Each label has a different background color for quick identification. The character was drawn in varied poses by Disney-trained artists.

Manufacturers have known the promotional value of trade characters for years. Usually these trade characters are invented by the manufacturer himself—and the manufacturer uses his advertising dollars to associate the character with his products.

Not so much thought has been given to the adoption of ready-made characters by means of which the manufacturer of a product may capitalize on the publicity and advertising dollars that have been spent elsewhere on such valuable characters.

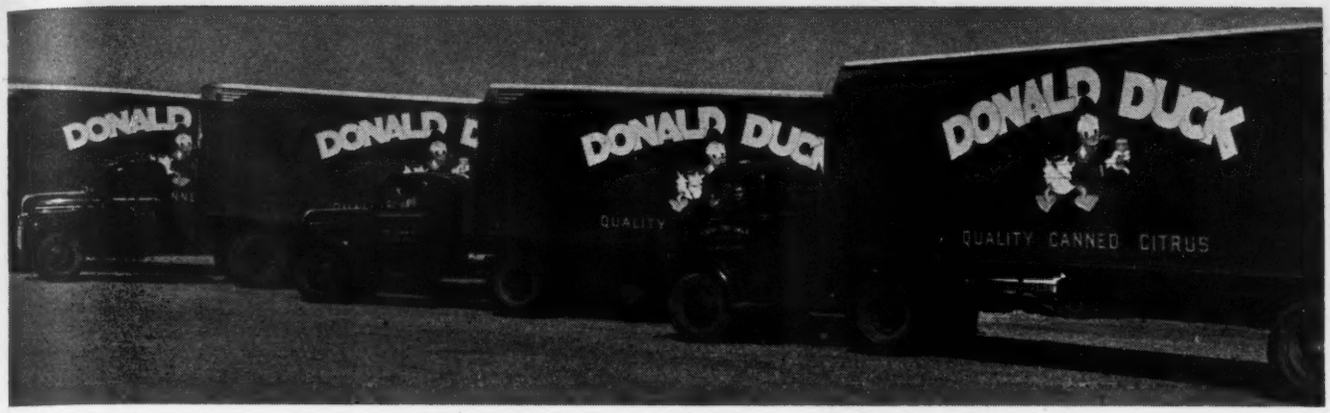
An outstanding example of how a ready-made character may be used as a package promotion is illustrated by the experience of Florida Citrus Canners' Cooperative.

All over the nation these packages have been attracting attention because of their human interest labels featuring Donald Duck. The idea was originated in 1941, when Carl Fish, vice-president of Florida Citrus Canners' Cooperative, asked to license Donald Duck as the brand name for canned grapefruit juice, orange juice, blended orange and grapefruit juice, grapefruit sections, orange sections.

The Donald Duck packages soon made their appearance in retail stores of the nation. In 1942, sales ran into hundreds of thousands of cases. In 1943, the volume was reported up to a million cases and this volume was maintained in 1944 and is going along at the same rate now, in spite of the fact that approximately 45% of all of the the citrus products have been going to the armed forces as well as to lend-lease for some time past.

The Donald Duck brand name, according to the Co-operative, was a decided factor in promoting these sales. The thinking behind the program was this. Housewives do not order groceries by telephone as much as they used to because of the curtailment of delivery service. They go to the self-service markets, wheel a cart around and select merchandise from bins or shelves. They are attracted by the eye-appeal of the package. Oftentimes the children go with their mother and even if they don't she quite naturally has the children in mind.

It is only natural that she will be attracted to the Donald Duck labels, because she is familiar with Disney characters, sees them in the movies and reads about them in the magazines and knows the children like them. Likewise



These Donald Duck trucks deliver the Donald Duck citrus products throughout a wide area in the South.

her children know the characters and are more apt to like foods when they come out of packages on which are reproduced pictures of their favorite cartoon characters. Moreover, the Florida Citrus Canners' Cooperative receives benefit from the tie-up with Disney because wherever Donald Duck appears there is a greater chance for the public to associate him with canned citrus products.

The success of the Donald Duck citrus was accomplished with very little advertising or promotion other than that of a good product in a good package. In the South, attention was widely called to the brand by fleets of Donald Duck trucks which delivered Donald Duck citrus throughout a wide area. You may also have come across book matches on which were reproduced the familiar character tied up with the brand name.

Each of the labels for the five different products has its own identifying background color: dark blue for unsweetened grapefruit juice; green for sweetened grapefruit juice; red for orange juice; light blue for combination grapefruit and orange juice; black for grapefruit sections. The color scheme makes for easy identification by both the clerk and the shopper.

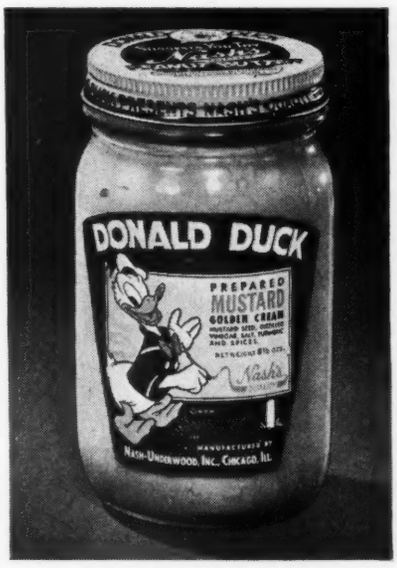
Each label shows Donald Duck in a different pose, in each he is depicted in some activity dealing with the preparation, eating or drinking of the fruit or fruit juices. The characters have been specially drawn for this purpose by a staff of Disney-trained artists.

With its exclusive use of the Donald Duck trademark in the citrus field, the Florida Citrus Canners' Cooperative expects this trademark to be a powerful tool in its educational, merchandising and promotional methods which have been planned for the near future.

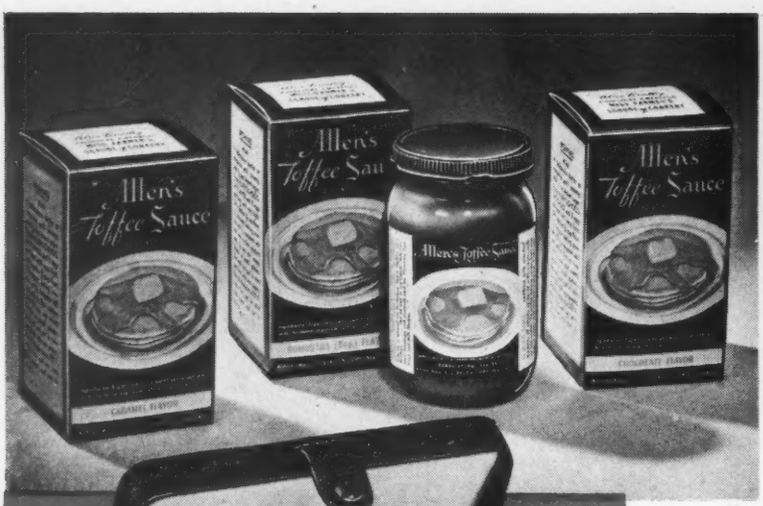
The success of Donald Duck in the citrus field has led food manufacturers in other lines to be licensed to use this brand. Already Donald Duck peanut butter and Donald Duck mustard are being marketed by Nash-Underwood, Inc., Chicago. It is expected that packers of cereals, jams, tomato juice and similar items may be interested in obtaining franchise rights for marketing their product under the Donald Duck brand name. Cost of the licensing is estimated at only a few cents to the case. For this promotional expenditure the user of the trademark has an opportunity to benefit from all of the Walt Disney publicity. Such activities are even contemplated as Donald Duck food weeks.

The introduction of Donald Duck into the food field follows the tremendous success of the use of Disney characters licensed for use in the packaging and promotion of hundreds of lines of products prior to the war including watches, toys, games, jewelry, pencil sets, doll dishes, candies, handkerchiefs, textiles, comb and brush sets, apparel, silverware, glassware, books, and innumerable seasonal novelties.

CREDIT: *Walt Disney characters licensed through Kay Kamen, International representative for Walt Disney Productions.*



Food manufacturers in other lines are adopting Donald Duck trademark. Nash-Underwood, Inc. are offering peanut butter and mustard under Donald Duck brand. Cereals, jams, tomato juice may also be seen in the future, similarly identified.



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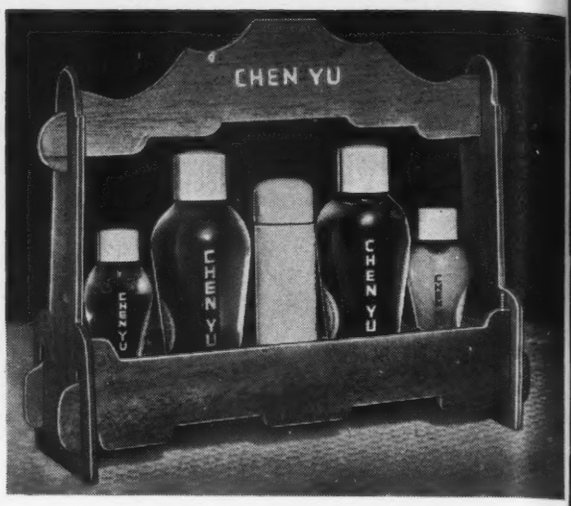

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PACKAGING

1 A mahogany-finish wood rack, reminiscent of a Chinese temple, holds five Chen Yu products—a bottle of Fast Dry, a bottle of lacquer, one lipstick, a bottle of Chip Chek and a bottle of Lacquerol. It is called the Pagoda Set.

2 A glossy black background sets off the full-color reproduction of a luscious dish of pancakes which decorate both the jar and outer folding carton for Allen's Toffee Sauce made by the C. S. Allen Corp., New York. A white strip across the bottom of the carton identifies the flavor within. Carton, Eastern States Division, Robert Gair Co., New York.

3 A black simulated-leather, satin-lined jewel case is used by Western Electric to set off its Model 63 Hearing Aid. The streamlined plastic instrument lies in a depression in the velvet platform. In order to protect the case from scratches or damage the company provides an outer paperboard container for the entire assembly. Plastic case, General Industries, Elyria, Ohio. Simulated leather case, F. H. Noble & Co., Chicago, Ill. Outer carton, The Hinde & Dauch Paper Co., Sandusky, Ohio.

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4 A clean, medicinal look has been achieved for the new boxes for vitamin products put out by the Associated Merchandising Corp. of New York, by means of a subdued use of gray, green and red. The figure "9" is stressed in both packages to put across the story that the small box contains capsules that have all nine vitamins while the other has nine vitamins plus nine minerals.

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PAGEANT

5 The Universal Sales Service Associates is using an hermetically sealed, tamperproof canister to assure safe over-seas delivery of its Waldorf rum and brandy fruit cakes. Weighing a full two pounds, each cake is cellophane wrapped and then "canned" in a spiral-wound, 1/8-in. fibreboard can with sealed metal ends. The fiberboard body is cellophane-lined both inside and out for extra protection. Tests have shown that the cakes keep perfectly for from six to eight months in this sturdy container. Each cake is provided with a corrugated shipping container complete with address label. Top labels, Tavern Printing Corp. Long Island City, N. Y.

6 The Middlebrooke Lancaster Co. is justly proud of its newly designed package for Nutrine, personal permanent wave. This permanent is for professional use only, each individual container holding just enough for one wave. In the past, the operator bought the products in bulk and poured out enough for each application as needed. Now the individual package serves two purposes: it cuts down waste and at the same time assures the customer that she is getting the Nutrine wave. Boxes, Model Paper Box Co., Inc., Brooklyn, N. Y. Bottles and caps, Owens-Illinois Glass Co., Toledo, Ohio.

7 Queen Helen Cosmetics presents a novel packaging idea aimed at the 'teen-age set. "Sweater Girl" is the name for this box of three bath items and the title is emphasized by the bottles flocked with pink for the bubble bath, yellow for the cologne and blue for the pine oil. The outer box, done in gold, yellow, red and black, resembles a juke box. Box design, Nine Lee, New York. Box, Sprowles & Allen, Inc., Philadelphia.

8 Dexta, a cleanser for aluminum ware and pots and pans, distributed by Boyle-Midway, Inc., is packaged in a fibre can with metal ends. The metal top is scored so that it may be perforated for dispensing. The key merchandising words, "cleans, deodorizes, polishes," are placed in the eye-attracting center of the label. Fibre can American Can Co. New York, N. Y. Labels, The National Label Co., Cincinnati, Ohio.

9 Woodland pine bath preparations, made by Woodland Toiletries New York, uses two shades of pine green on labels and cartons to preserve the "woodsy" effect of the line. The bottles with their chunky wooden closures and the round fibre container with its spray of pine cones are sufficiently dainty to please the most feminine user and at the same time stay away far enough from the fancy package to appeal to the men. Boxes, Brookes & Porter Inc., New York. Wood closures, Gibson-Jones, Inc., New York. Round containers, Miro Container Co., Brooklyn.

10 The House for Men, Inc., makers of "His" cosmetics, has added a new item to its line of after-shave preparations—"After-Electric-Shave Lotion," made especially for the man who uses nothing but an electric razor. The squat, dark-hued, masculine-looking bottle with a plastic closure is outer-packaged in a simple folding carton. Designs for both the outer container and the bottle are kept as simple and as dignified as possible to appeal to the male consumer. Bottle, Carr-Lowrey Glass Co., Baltimore Md. Caps, Formold Plastics, Chicago. Cartons, Edison Folding Cartons, Chicago. Labels, Fraser Label Co., Chicago.

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Design principles for flexible containers

1—The swing to bags for coffee during wartime heightened design interest. Dramatic poster effect is achieved for "Second Cup Coffee" by extending printing to sides and by alternate front and side-face stacking. White Plume package shows how design may be retained. Hillman packages illustrate family idea.

Flexible containers for consumer packages have been used for more than 25 years, or ever since methods of color printing were developed for bags. Wartime restrictions on many types of rigid containers and improvements in materials and laminations have, however, expanded greatly the uses of these containers as consumer units. Many of these gains will carry over into the postwar era and manufacturers contemplating the use of such package forms are becoming more and more aware of the essentials of good design for such containers to provide maximum shelf appeal, display value and customer acceptance.

It is with this thought in mind that MODERN PACKAGING has consulted leading art directors of the largest and oldest converters of flexible containers for their opinions on design principles that will aid the manufacturer who is planning to market his products in bags.

The basic essentials for a bag package, of course, are the same as for any other type of container: protection, convenience, eye appeal, economy. Protection depends upon the nature of the product, its suitability for a flexible container and the selection of materials and type of closure used. Convenience has to do with the adaptability of the bag package to production facilities and equipment, its ease of handling from both manufacturer and consumer standpoint. From the cost standpoint, flexible containers offer a very economical type of package.

Eye appeal then is one of the biggest factors in planning the design. First principle to be remembered is to plan the design specially for the flexible package, taking into consideration the physical characteristics of bag construction. The most effective packages are those designed specially for the package form which they are destined to adorn.

Letter press is the method most commonly used for the printing on stronger papers such as kraft, although offset is sometimes employed. For cellophane, rotogravure is most effective and when printed on the reverse side allows the shiny surface of the cellophane to be visible on the outside. The grades of paper, finishes and coatings determine whether line, benday or halftones will be most effective, also the screen sizes if halftones are used. Actual printing on bags is not done with original plates but with stereotypes or steel cut dies engraved cylinders, curved electrotypes and rubber plates.

Presses specially designed for the printing of flexible containers are equipped to print as many as six colors in one run through the press. The printed roll of paper is then rewound and put on the bag-making machine. The paper is then folded, pasted and cut to proper length to form the bag.

When planning a design it is well to remember to keep the

printing well below the fold so that it does not interfere with the closure. Also an allowance in height and width of the design should be made to provide for the settling of the product in the bag after filling because settling may increase the width.

To cooperate with WPB in saving ink and paper, manufacturers of flexible containers have limited the solid printed surface to 80% of the tube. That is why many flexible containers today have no design on the bottom and printing sometimes starts about $1^1/_2$ in. from the top of the fold.

Bag manufacturers in cooperation with ink manufacturers have worked out a standardization of colors for printing on bags which assures the user a commercial match in the completed package. Some manufacturers have a color guide to assure the customer of standard colors.

Designs may be placed on front and back panels and may be different in each case, should one face be used for informative data. Sides of a bag may also be utilized.

Large manufacturers of flexible-type packages maintain competent and experienced staffs of package designers available to the user at all times to work out the problems and requirements of every type of flexible container. Because of their comprehensive knowledge of the engineering, mechanical and other technical aspects of bag manufacture, these designers are experts in developing designs to meet the exacting requirements in relation to merchandising needs.

The good designer appreciates that a package which is to receive customer acceptance must make itself seen and its product immediately identifiable, that it must be informative. The specialist in bag design uses all surfaces of the package to advertise the product and its uses. By proper use of type, color and illustration, he can produce the desired dramatic effect so necessary in today's self-service merchandising picture.

Principles of design for flexible containers may best be illustrated by a description of design approaches for a representative group of flexible packages.

The swing to bags for coffee due to wartime limitations of other types of containers, for example, has heightened interest in effective design for such bags. Essentials, of course, have been to change the package without loss of brand identity. This has been done in two ways. First and simplest practice has been to reproduce on a bag the same design previously used on a can or glass jar, so that on the shelf the consumer continues to recognize her favorite brand. In the case of White Plume Coffee, packed by Ouerbacker Coffee Co. (illustration, page 122), no element of the original design was lost in changing from tin to paper. The same brand design

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2—When "Farm Family" seed assortment was changed from rigid to flexible container, design was strengthened by pictorial and color treatment. 4—Illustrations of peaches, apples and roses distinguish the different types of sprays sold under "Pan Brand" by Woolfolk Chemical Works. 4—Same company has a striking family for garden chemicals.

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5—Slogan for "Stam," a cooked cereal, "Bursting with Stamina," is carried out in the design by means of a red sunburst effect that conveys the feeling of strength.

and color combination were retained to assure uninterrupted recognition of the familiar package. It was found, however, that the flexible container had somewhat more display area than the rigid one. Another method of effecting the design change-over from a glass jar or can to a flexible container is to maintain recognition by a facsimile reproduction of the old jar or can on the face of the new package.

The family idea may also be achieved when several brands are packed by the same company. In the case of Hillman's coffee packages, the same design is run in different color combinations for the various brands.

A striking example of a poster-type package design is that for Southland Coffee Co.'s "Second Cup Coffee." Two large cups of coffee are the central theme, but the printing is so arranged that the saucers extend over to the sides of the bag. When placed on the shelf with the face of the package alternating with one placed sidewise, the effect is one of huge cups of coffee that can be seen at almost any distance in a store. Background is brown with the cups and saucers in yellow-orange. Lettering is white.

New products packaged in bags for the first time also reveal interesting design planning. One of these is a cooked cereal called "Stam" made by Krug Baking Co. The slogan, "Bursting with Stamina," has been carried out in the design by means of a red sunburst effect and the type conveys a feeling of strength. Colors are buff, red and brown.

Suppliers of seeds, fertilizers and chemicals too have become more aware of the necessity to package their product with greater sales appeal. The Farm Family Seed Assortment marketed by Cooperative Seed and Farm Supply Service illustrates a conversion from a rigid container. When put into a flexible package the brand name was strengthened by placement on a dark panel. Quicker recognition of contents was provided by use of a color drawing of vegetables. Use of red, white and blue color scheme associates the package with

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6—Dutch Jake package for chewing tobacco shows how design may be improved by introducing a sprightly trade character, revamping the printed copy and switching from one color to two.

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7—Meaty Meal Dog Food, processed dry, is sold in bags. When package was changed over, new art work and type treatment added greatly to shelf appeal. 8—Merchandise bags to encourage sale of electric light bulbs have lighting guide on back panel. 9—Printed cellophane bags may be designed in many ways for effective seasonal uses.

the Victory Garden program in the minds of the customers.

Another good example in this same field is a family of garden chemicals put out by Woolfolk Chemical Works. All products are marketed under the names "Security Brand" and "Pan Brand." Product names in unmistakable big lettering appear on the face of each package. Family tie-up for "Security Brand" is maintained by displaying the "Security" trademark. The brand name is further emphasized by printing it in repeat design diagonally on all sides of the container. Sides of the container are printed with small line illustrations showing home and farm uses of the product. Illustrations of apples, peaches or roses distinguish the different types of sprays sold under "Pan Brand" name. Products are further distinguished by different color printing.

Dehydrated dog foods have opened up another use for flexible containers. Meaty Meal Dog Food is a product, now processed dry so that it can be sold in paper bags. When it was changed from a metal can the manufacturer designed the new package particularly for the new package form. Two dogs' heads are reproduced in halftone against a background of rich brown.

How bag design may be improved is well illustrated by the old and new packages for Dutch Jake Tobacco. The same size bag is used in each case—3 in. by $2^1/_2$ in. by 7 in.—but a more appealing effect has been achieved on the new package by the introduction of a trade character, "Dutch Jake." Revamping the printed copy and switching from one color to two also helped to improve this package.

The way bags may be used for the imprinting of directions and informative data is illustrated by merchandise bags to encourage the sale of electric light bulbs. These bags are supplied by light bulb manufacturers to dealers who fill them with lamps already packed in corrugated sleeves. Any assortment of sizes may be included in the bags. The face of the package carries the promotional message. Manufacturer's or dealer's name may be printed on the packages. On the back of the package is a lighting guide chart which shows the correct sizes of bulbs to be used for various types of electrical fixtures. The clarity of the small details demonstrates the fine type of printing achieved even on heavy kraft paper.

Surveys have shown that 85% of the women interviewed prefer candy protected by cellophane. Printing on cellophane bags offers unlimited opportunities for display packages.

All of the examples cited in this article indicate that design principles for bags are similar to those for other types of containers. The interesting effects that may be obtained, however, depend on careful study in applying the modern developments in printing and bag-making equipment and sealing and packaging machinery.

ACKNOWLEDGMENT: *Information and photographs for this article supplied by the Flexible Packaging Institute.*

Handy tobacco

. . . a proven packaging principle

*by V. D. Strickland**

For the average heavy smoker of pipe or cigarettes, a use has long existed for the larger container for tobacco—for the cigarette smoker who rolls his own cigarettes and for the pipe smoker who prefers to fill his own personal pouch from the half-pound package.

In pre-war days, metal containers had usually filled the needs of the tobacco industry for handling these larger supplies. As metal shortages became more acute during the war period, an alternative container was needed which would quickly replace metal and be equally as good in appearance, keeping qualities, serviceability, simplicity and availability.

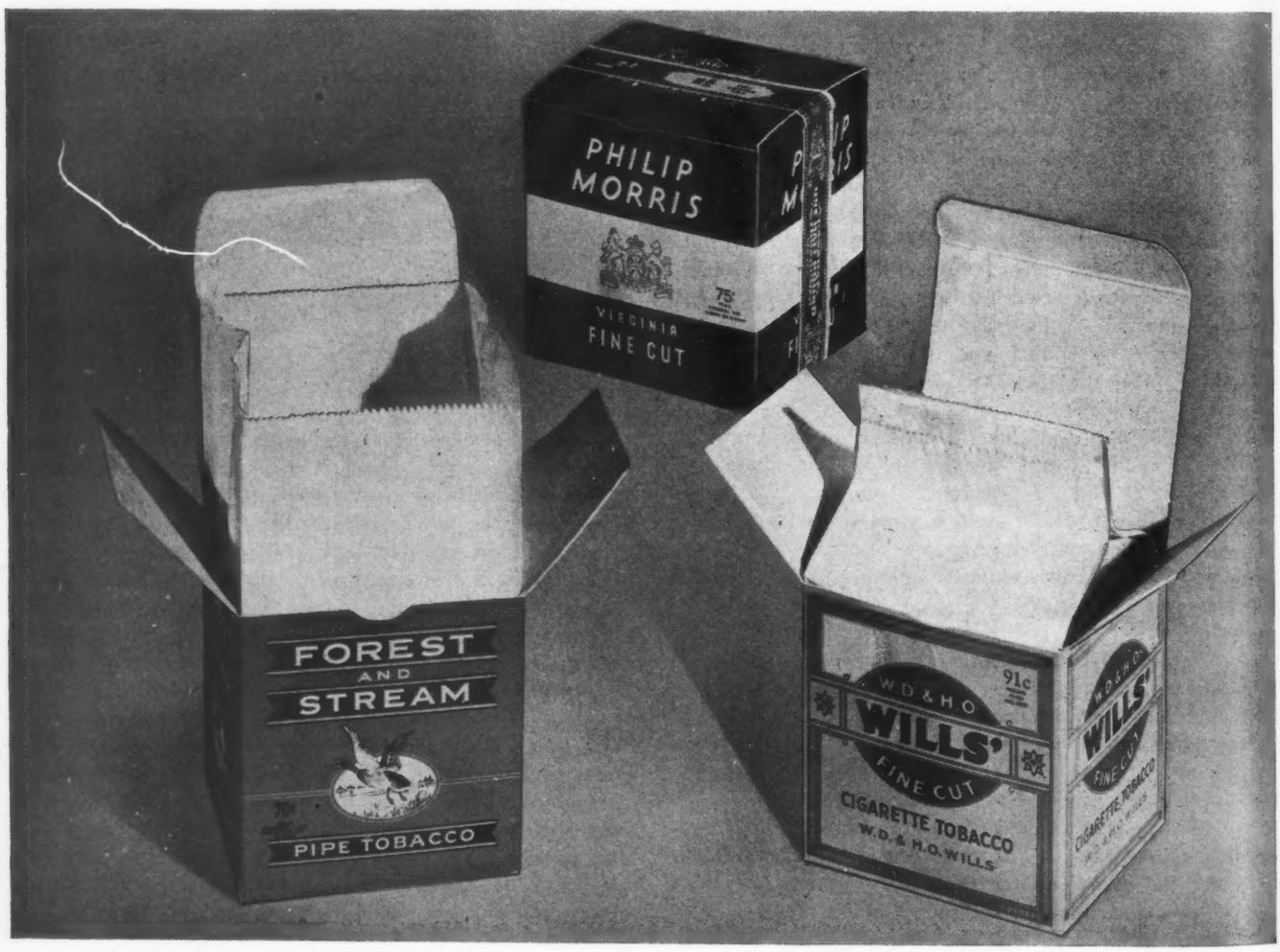
A rectangular-shaped carton of good board was developed carrying substantially the same design as used previously on the can. At the same time, the square shape selected is one which permits of extreme care in handling and ready access to the contents by the individual smoker.

Product protection has been achieved by the additional use of a liner bag for the carton, shaped to fit snug inside the carton in all directions, compact and safe against pressure breakage in handling or shipment.

The liner bag is made of materials not affected by tobaccos and the mixtures with which it is treated. Materials such as three-ply glassine, two sheets of two-ply glassine, MST cellophane and sulphite wax-laminated have played an important part in the success of the package. An essential feature of

* General Sales Mgr., E. S. & A. Robinson (Canada), Ltd., Toronto, Ont.

Three 1/2-lb. tobacco packages illustrate three stages: at left, the laminated bag open for filling; at right, bag closure heat sealed; in the background, carton closed with the revenue stamp affixed in place.



all liners is the need of closure by heat-seal and all glassine liners are equipped with thermoplastic bands at the open mouth for this purpose.

The economies of the package provided considerable interest to the tobacco industry and as a result it was universally accepted by the trade. The package provides the necessary product protection to satisfy both the tobacco industry and the tobacco smoker. The package provides serviceability and equal simplicity for the purpose required and there is every indication that this particular container is here to stay.

Pocket pouches

It had been the custom for a great many years for the habitual pipe smoker to make use of a pouch for carrying his tobacco. These were usually made of some flexible moistureproof material—generally rubber. In the days when tobacco was largely distributed in bulk and in later years as it was marketed in pocket-size tins or paper packages (the latter usually falling to bits before the contents were consumed and the former with its extreme rigidity wearing spots in clothing), the common custom for the smoker was to transfer the tobacco to his own tobacco pouch. The advantages of the pocket pouch became obvious.

Surveys of the retail tobacco field revealed the need for an improved and more suitable pocket package for tobacco—a package with sales appeal and usefulness combined; in other words, the practical and commercial application of the old-time pouch idea which had been inherited from our fathers. How could we make a tobacco pouch on a production basis—a pouch with the long flap for wrap-around closure? What materials should be used in the construction of the pouch? What method should be used by the tobacco industry for filling, sealing and closing this relatively awkward package of relatively awkward shape? These problems were not solved in a day.

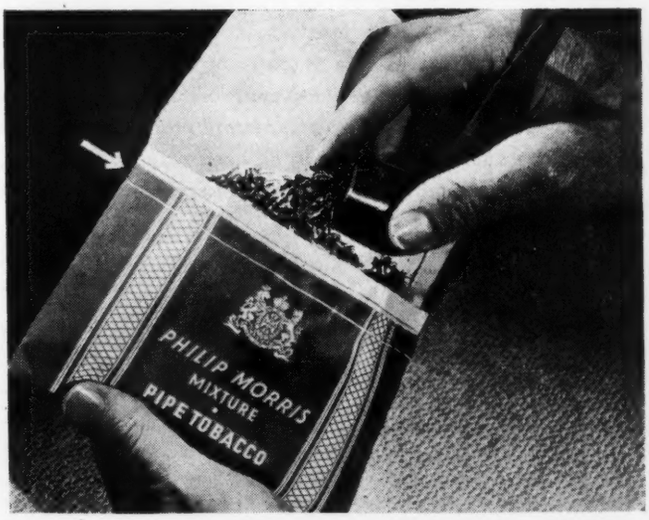
Some ten to twelve years ago, a commercial application of this pouch-style package came into use, but the construction cost of the pouch was high, and the material—necessarily of a thermoplastic nature for sealing across the mouth—was extremely difficult to handle. However, it was the beginning and sufficient encouragement was offered, from the interest shown in the package, to be the start of a rapid development in methods of manufacture and uses of materials, with the result that today in some countries, particularly Canada, this style of pouch package is universally accepted and is used for all the well-known brands of tobacco, with ever-growing popularity and consequent increased sales volume.

As time went by, various materials were used after the customary laboratory tests were made and a good many different materials were more or less successfully employed. Among these were cellophane coated with rubber and wax composition; laminated glassine; laminated cellophane and glassine; pliofilm; laminated paper-foil combinations, etc. In selecting any of these combinations, appearance was of prime importance. All of these materials were found to provide the sufficient amount of water-vapor protection for the tobacco.

The strength of the materials was one problem which required careful planning. A pouch had to be built which would survive repeated rough use by the individual smoker. Each pipe-filling operation meant insertion of the hand and pipe into the open pocket. This put a severe strain on the material.

After repeated tests on materials and methods of manufacture, a scheme was finally worked out for reinforcing the pouch around the open mouth. This is done by means of a banding operation in the production of the pouch. A transparent film, which is almost invisible on the printed surface of the pouch, is used for the band. This patented feature has very greatly added to the over-all effectiveness of the pouch. It particularly permits of the use of lighter-weight and less costly materials with added flexibility.

The pocket-pouch, above, has become very popular in Canada for smaller sizes of pipe and cigarette tobaccos.

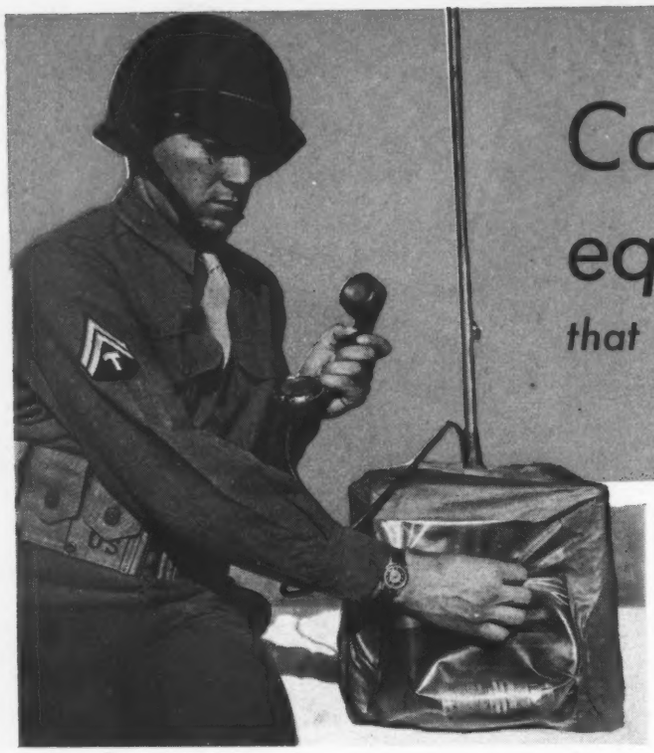


Arrow points to transparent reinforcing strip around mouth.

All types of pouches require a means of closing the mouth of the pocket to prevent moisture transfer. Therefore, the inside liner must be of a heat-sealing material, or, alternatively a thermoplastic coating is required either all over the inside surface or, alternatively, across only the mouth or sealing portion of the pocket.

There will be many good coatings and probably some new films available for use in the manufacture of pouches in the postwar period.

CREDIT: *Package structures illustrated manufactured and patented by E. S. & A. Robinson (Canada), Ltd., Toronto, Ont.*



Communications equipment

that works in its wrappings

Radios and walkie talkies in bags of vinyl sheeting are the latest packaging development of the Army Signal Corps. The instruments are completely protected from salt spray, are unsinkable and can be used right in the package without wasting even one second to remove wrappings.

Radios and "walkie talkies" that work right in the bag went with our Armed Forces in their Pacific conquests and their occupation of the Japanese homeland.

In these waterproof bags made of vinyl sheeting, the instruments are completely protected against salt water spray. They are also unsinkable and support the instrument in case of immersion. The radios are even strong enough to serve as life preservers in case of emergency. A narrow window permits the operator to see the instruments inside.

The packaging was often vital in invasion operations where even the time needed to remove an instrument from its casing might spell the difference between life and death.

These packages are only one small part of the tremendous job of the Signal Corps in protecting communications equipment from the three chief enemies: moisture, fungus and violence during combat conditions.

So comprehensive and so specialized have become the packaging of communications equipment for "tropicalized" use that the Signal Corps has instituted an intensive program of on-the-job training in packaging signal equipment under Brigadier General T. J. Tully, director, distribution division, Office of the Chief Signal Officer. In various signal depots where the course is given, the trainees spend one hour a day in classroom work and seven learning the work by actually doing it.

About 40 officers and 46 civilians have already completed the course at the Philadelphia Signal Depot; 24 officers, 48 enlisted men and 21 marines are taking the course at Holabird Signal Depot, Baltimore, and 40 civilians at the Chicago Signal Depot are enrolled in the course.

Training covers all phases of scientific packaging, including constant research to improve methods of preparing material for shipment overseas. Small items are prepared by being passed through a cleaning fluid and preservatives to prevent corrosion. They are packed in greaseproof paper after which they are either placed in unit packs of standard sizes or are wrapped in another covering of wax-impregnated papers. The extra covering is wax dipped.

Packaging of large transmitters and power units entails the use of moistureproof containers made of metal foil paper in accordance with Method II procedure.

On completion of the course, the men are assigned to varying duties. Some will remain at the Signal Depots to incorporate the improved methods of packaging which they have learned. Several officers will be assigned as inspectors at the plants manufacturing signal equipment. By sending technical packaging teams to the war theatres, the Signal Corps will be assured of scientific packing of equipment.

Package for electrolyte . . . a war problem

*by L. W. Bauer**

One of the more recent problems with which Ordnance and it is believed most of the other services were confronted was the shipment of dilute sulphuric acid, known as electrolyte, which is used in automobile batteries. Most of it is shipped in U. S. Standard 1-gal. or Imperial gallon bottles.

Because of the influx of complaints from foreign theaters about breakage and leakers, changes were made some time ago in what originally constituted a satisfactory method of packaging battery acid. Changes were made in the method of cushioning the bottle. A cork or rubber stopper was adopted. In addition, a resin-based screw cap was used and, to prevent the cap from becoming loose, a pressure-sensitive tape or band was placed around the cap.

The cushioning material used at that time was mineral wool pads or batts and these were so placed in the container that the neck of the bottle would be afforded the maximum protection. The cushioned bottle was then placed in a fibreboard container which was in turn placed in an exterior wood container.

This method was used for about a year, until a flood of complaints began coming in from overseas. The British Ministry of Supply, the Coast Guard and the War Shipping Administration urged strongly that a pack be developed that would completely absorb the contents in case of breakage or leakage to prevent damage to other cargo and to guard against injury to personnel.

A working committee appointed by the Joint Army-Navy Board investigated. It was found that the mineral wool batts would absorb only a small portion of a gallon bottle of electrolyte. Chemical action would set in, causing the mineral wool to throw off obnoxious fumes and heat up to a dangerous degree.

It was also noted that the mineral wool did not always attain the same consisteney. In revolving drum tests, the repeated shocks to which the cushioning material was subjected showed that it powdered badly. It was also pointed out by the chemical manufacturers that the wool often became brittle and broke when bent around a bottle, thereby reducing its cushioning value.

It was found that some of the troubles could be traced to the stoppers and the type of screw cover used. Tests by chemical analysis showed that the cork and synthetic rubber stoppers would disintegrate. In addition, the rubber stopper would cause discoloration of the acid, from a light yellow to a dark brown, depending on the length of time the stopper was subject to attack by the acid. The resin-base screw cap, even though reinforced with a pressure-sensitive tape or band, was not adequate.

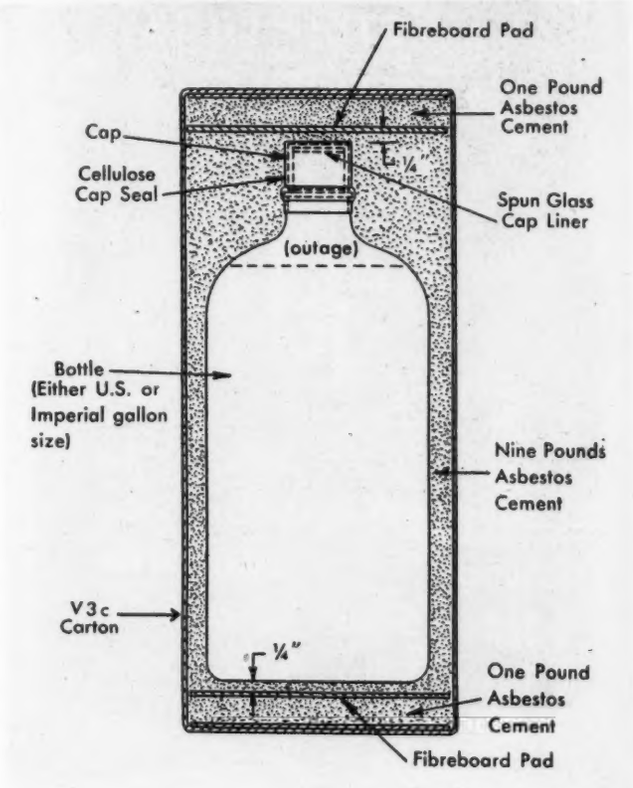
The water packer bottle had a very short neck. The screw cap was held in place with only about a half turn. Subject to constant agitation, the cap would eventually work loose. During the many tests run it was also noted that gradually the neck of the bottle worked up through the mineral wool pad and the cap would break when subjected to a drop without benefit of adequate cushioning. With changes in temperature the pressure inside the bottle built up.

When the working committee was asked to get a cushioning agent that would completely absorb the contents of a bottle should breakage occur and at the same time prevent fumes or combustion, it was apparent that the field of available materials would be extremely narrow.

Leaders in the chemical field were consulted and after careful consideration of cushioning value, availability and workability, short-fibred asbestos was chosen. It was tested for fumes, combustibility and absorption qualities. To properly cushion the bottle in the container, about 11 lbs. of asbestos was required. When subjected to the absorption test it was found that 7 lbs. of asbestos would completely absorb one gallon of acid. This gave a safety factor of about 37%. No fumes were emitted and the asbestos attained an initial heat of about 95 deg. F., which was not exceeded.

An improved bottle was then sought and we adopted the pour-out or pour-clean narrow-mouth packer with a 430 finish, the glass manufacturers' designation for a bottle with a long neck and a rounded bottom. The rounded bottom gave additional strength. The longer neck was instrumental in solving the closure difficulties.

In finding a cap that would not be attacked by the acid the choice of materials also was extremely limited. After exploring the available selections, we adopted a polystyrene screw cap. This was a deep (*Continued on page 170*)



Cross-section diagram illustrates the new Ordnance safety pack for battery acid. The V-carton is sealed with tape and over-packed in a modified Style 4 wood box.

* Packaging Section, New York Ordnance District.

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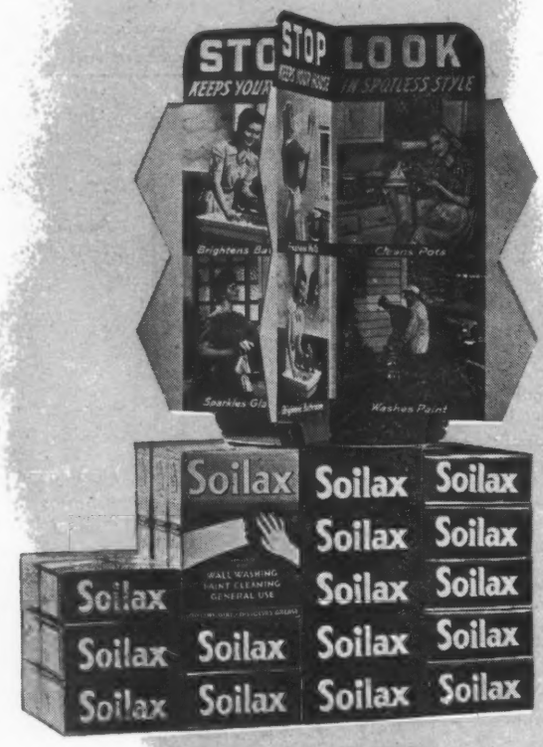

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Display

1 The McCambridge & McCambridge Co. of Baltimore recently re-packaged "Fiendoil," a rust-preventive lubricant, in brilliantly designed yellow, demon-red and black cartons which are sure to attract attention on the shelves of filling stations and hardware stores. In the foreground can be seen the old package, left, and the new one, right. One dozen of the new packages are packed in a simple folding carton which, when opened, acts as a counter display to encourage self-service. The top of the carton is cut out in such a way that the "fiend," a trademark character used to identify the product, dominates the backpiece when the display is set up, ready for the counter. This outer carton is done in two colors only—red and yellow—being designed to give the same effect as the carton without the need for a third run. Designer, Margery Markley, New York. Cartons, The A. S. Kratz Co., Richmond, Va.

2 Colonial Dames Inc., manufacturers of Campus make-up have a new counter display unit which appeals to the adult cosmetic consumer as well as the college crowd. The shade chart display is composed of plastic, wood and cardboard and shows clearly the various make-up colors. The poster section may be changed readily merely by dropping a new card into the wooden slots provided. The company supplies attractive full-color cards from time to time. This feature keeps the display up-to-date and helps create an interesting change of pace. A group display of the products in front of the stand adds considerably to its pulling power. Display, Einson-Freeman Co., Long Island City, N. Y.

3 A novel counter-size "traffic builder" unit of the self-service type for the display of "Soilax," a paint and household cleaner, is being offered to retailers by the Economics Laboratory, Inc., makers of the product. Based on the principle of a post-card rack, the semaphore top unit, illustrating various uses for the cleaner revolves to the customer's touch. Mounted on a tier of dummy packages, a display of actual cartons may be built to any size around this center core or it may be used to top off a mammouth floor display. Display, Ketterlinus Lithographic Mfg. Co., Philadelphia, Pa.

4

Gallery

4 Standard Laboratories' newest display material for "Nonspi," its liquid deodorant product, incorporates an extremely unusual merchandising theory which the company is fast proving correct. The counter display is in the form of a deodorant bar with a platform for not only the company's product but that of its competitors as well. The sell copy reads "select your favorite deodorant" and the only special emphasis on Nonspi is the fact that the portion of the shelf set aside for it is slightly raised from the general level and price tags are provided. Against the back of the display is a holder for free booklets titled "An I.Q. on Deodorants." Retailers all over the country are reporting the counter unit a great success as a sales builder. Display, Masta Displays, New York City.

5

5 "Luxury indeed!" is the merchandising story told by this, the newest window piece for Cara Nome cosmetic products of the United Drug Co. of Boston. The display has a novel three-dimensional construction. The cut-out of the attractive girl carrying a tray of Cara Nome products in the foreground dominates the scene. The sides of the display taper back to a sophisticated ballroom scene which forms the back drop. Drug stores and department stores all over the country are being urged to use this piece as the center of attraction for a complete window featuring a full line of the products. Lithography, United States Printing & Lithograph Co., Brooklyn, N. Y.

6

6 Who will be Miss Rheingold of 1946, is the question which again confronts the beer-consuming public of New York City. Each year Liebmann Breweries, Inc., sponsors this contest and each year the selection of the model to appear in all the Rheingold ads for that year attracts more and more voters. This year the ballot box, which can be found on bars and in groceries and delicatessens selling the beverage, is made to simulate the case in which Rheingold beer is delivered. A backpiece shows the six girls selected to compete and the whole is finished off with a pad of ballots and a pencil to make the voting easier. A streamer and window flasher go along with the ballot box as additional promotional material. An instruction booklet tells the salesmen how to get the best from the display.

Postwar export . . . packaging with modifications

*by F. C. Edelston**

With reconversion underway, a new packaging market is gradually beginning to take shape in postwar planning: the protective packaging and packing of metal parts and assemblies for commercial export shipments.

This new field is bound to assume great prominence within the framework of postwar industrial development. Now that the enormous productivity of this country is freed from military demands, the expansion of our industrial facilities is bound to result in a postwar supply of such dimensions that our national markets will be rapidly saturated. The productive capacity that built up the world's greatest Army and Navy within a few short years, at the same time supplying England, Russia, Brazil and Australia with billions of dollars worth of war matériel, can be counted on to satisfy our national consumer goods markets in a fraction of that time.

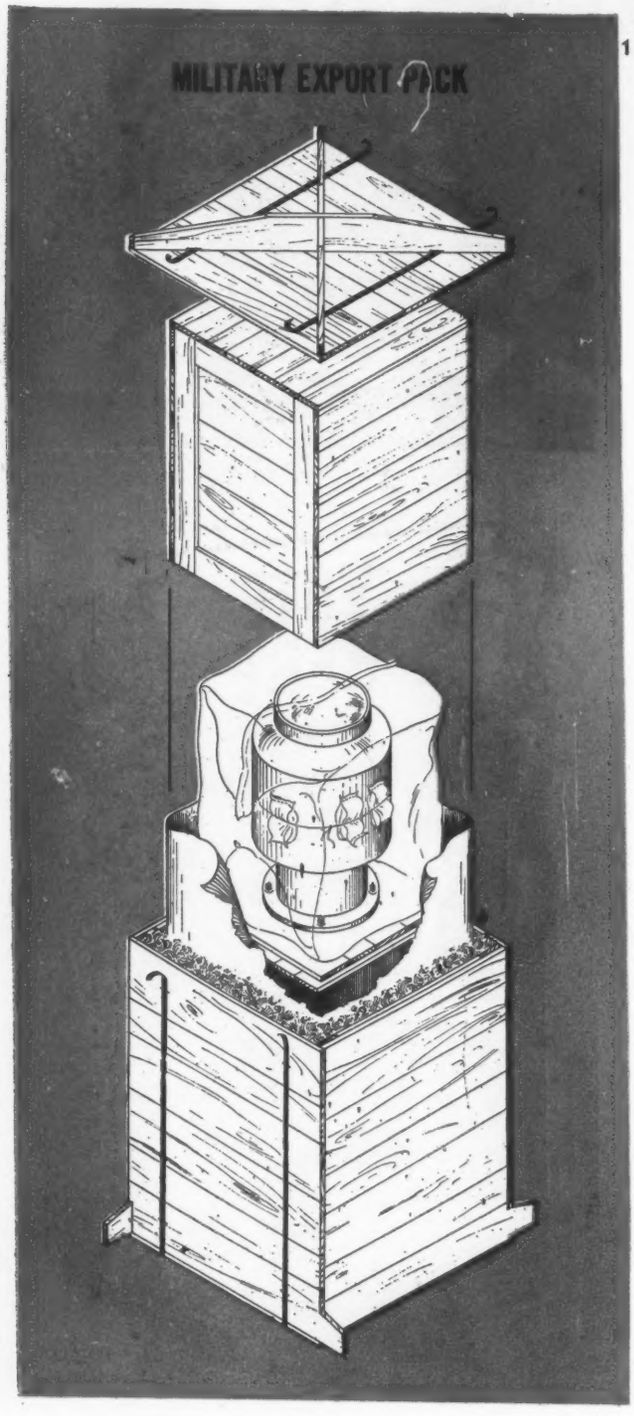
American industry must, therefore, prepare itself for a large export trade. Here, too, the demand will be great. With the majority of foreign production facilities obsolete or destroyed, we have the job of supplying virtually all the rest of the world with both industrial manufacturing equipment and consumer goods for many years to come. Continued success of this tremendous task, one of the important prerequisites of lasting national prosperity, will essentially depend upon our ability to deliver goods in perfect condition throughout the world on an efficient, economical and competitive basis.

One of the factors that contributed materially to the high cost of prewar export shipment of metal products was the large percentage of waste caused by corrosion. In some industries, for instance, it was standard practice to export with each assembly, at the expense of the customer, a certain supply of spare parts as replacements for corroded parts. In other instances, major units were disassembled for export shipments, so that critical components could be preserved with a heavy grease, to be degreased and reassembled at the point of destination.

In eliminating inadequate and wasteful practices of this type, the necessities of global warfare created a new science; the protective packaging and packing of metal parts and assemblies for overseas shipment. One of the most spectacular developments of this modern science is the dehydrated, or Method II, pack which permits the safe shipment of critical assemblies, such as motors and instruments, by virtue of the combination of a water-vapor-resistant enclosure, reduction of the enclosed air volume through deflation and neutralization of the remaining or subsequently infiltrating water-vapor by means of a desiccant.

Because the basic utility of most war-time metal packaging developments has been and is being amply demonstrated in our worldwide military supply, it has become increasingly recognized that postwar industrial export shipments of metal parts and assemblies will embody the knowledge derived from military packaging. This important trend is demonstrated by the fact that new marine underwriting standards favor export packaging requirements as established in military overseas shipping.

At the same time, in view of the basic functional differences between military and commercial export shipments, it is likely that postwar export packaging will feature certain modifications of current military practices. To ascertain the logical lines of demarkation between present and future pack-



1

1—*The uncertainties of military handling required utmost protection for a compass: a Method II dehydrated pack in a wood box with a waterproof case liner, floated in excelsior and packed in an outer wood box.*

* General Sales Manager, Clarvan Corp., Milwaukee.

aging procedures and to arrive at a likely appraisal of postwar practices, it is necessary to compare the basic functions of the two types of packaging.

The functions of the military pack reflect the rigors and hazards of military supply.

First of all, the ultimate destination of an item to be processed for overseas shipment is generally unknown at the point of packaging. This means that the pack must furnish protection against any and all atmospheric conditions that may possibly be encountered: extremes of heat, cold, humidity and aridity, as well as rapid changes in climatic conditions and altitudes—all factors that exert severe strains upon the pack—must be considered in designing the pack.

Another consideration is the handling that the military pack will be subjected to in transit. Again the pack must be engineered to meet the needs of all possible forms of transportation, from plane to camel-back, as well as all conceivable manners of abuse during numerous loading, unloading and storing operations. The possibilities of severe jarring and even dropping, excessively high stacking and entirely exposed storage have to be taken into account.

A third unknown factor, again necessitating a maximum degree of protection, is the duration of storage that the military pack will encounter. Many months and even years may pass from the time the pack is completed until it is put to actual use in the field.

Since, in view of these hazards, the military pack must furnish an extreme measure of protection, its cost is necessarily high. Expense is a consideration only insofar as it pertains to the selection of the most economical one of several possible packaging methods, all of which must meet certain minimum requirements laid down in military packaging specifications. Beyond that, it is a matter of protection regardless of cost.

This principle, though in many cases the cost of the pack may exceed that of the enclosed unit, is basically quite sound. Obviously, it is not only a lesser economy to risk deterioration of the part, but it actually may well result in the loss of lives—the old story of the kingdom that was lost for the loss of a nail.

The basic function of the military export pack, then, is extraordinary protection to meet extraordinary conditions. For a comparison, let us examine the respective functions of the commercial export pack.

Here, generally, we have only specific and usually well-known conditions to contend with, so that the pack may be designed to suit only well definable needs.

The climatic conditions to be encountered by the pack can be readily anticipated, depending upon its destination.

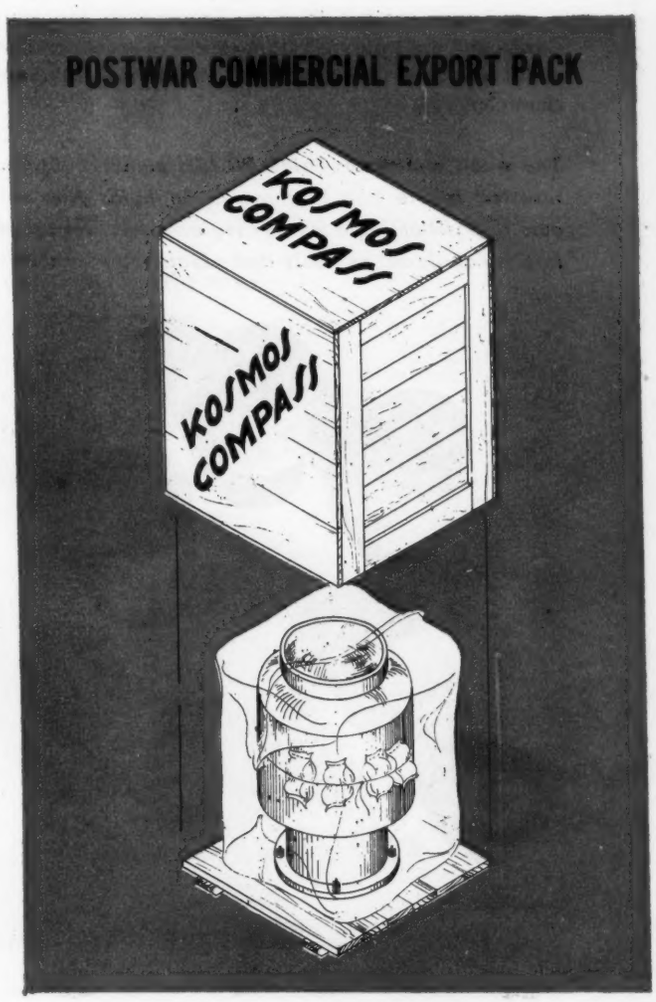
The average commercial export pack, therefore, need offer protection against only a limited range of atmospheric hazards. The specific protection required for the climate of the pack's destination point may be further modified, compared with the military pack, by consideration of the facts that peace-time handling of cargo will be far less severe, normal storage and stowage more adequate, the transit period itself usually fairly definite and generally considerably shorter than in wartime, and transportation facilities subject to ever increasing improvements.

Since the postwar commercial export pack for metal products will require a lesser degree of protection, its cost will be lower than that of the military pack, not only because of the

2

2—Many precision instruments when packed for export in normal commercial trade will use a simple dehydrated pack such as this, combining protection with sales appeal.

3



3—For postwar commercial shipment compass can be adequately protected by dehydrated packaging in a single wood box. Shipping case can carry trade name and message. By removing top, effective, protected display unit is achieved.

savings achieved by using less material per pack, but also in view of the reduction in transportation and warehouse charges resulting from a decrease in weight and cubage. Such savings will be particularly important, because economy, while a secondary consideration in the emergency of military packing, will of necessity become a prime requisite of postwar export packaging.

From the beginning, there will be competition for export trade from other countries that have been relatively unharmed by the war and the years to come will see steadily increasing rivalry for export markets. Therefore it will be imperative, in order not to impair competitive prices, that good export packaging also be economical.

In addition to the logical reduction of extraordinary wartime to a new standard peace-time protection, other developments will further enhance the economy factor. Packaging materials, freed from shortages, restrictions and substitutions, are bound to decrease in cost due to economies facilitated by expanded production and freshly stimulated competition. Again the ingenuity of the packaging field will come into full play, creating new products, improving the old, combining old and new materials, increasing the yield of papers, films and foils and mechanizing many production, converting, packing and shipping operations. Already, research laboratories throughout the country are hard at work, devising new laminations and moistureproof and heat-sealing coatings that will result in more economical packaging.

A last, but by no means less important function of postwar export packaging, which does not exist in military packing, is presented by the merchandising and sales aspects: the display and sales appeal value of containers.

There are, of course, nu- (*Continued on page 164*)

Wood tubes for street-light film cutouts

by D. M. Wolf*

In street lighting maintenance, film cutouts are used on series circuits to insure continuity of the circuit and on series multiple circuits to prevent radio and telephone interference caused by harmonic voltages after a lamp failure.†

With the tendency to increase current and voltage ratings of street lighting lamps, the proper application and correct functioning of film cutouts becomes of extreme importance. As a consequence, the cutouts must be packaged so that they are immune to damaging shocks and are protected from excessive moisture that might eventually change their electrical breakdown characteristics.

The wood container holds 20 film cutouts. Spring inserted before cap is screwed on holds film cutouts in position, extends as they are used preventing jars. Labels act as seals and identify the contents.

Made in low, intermediate, and medium voltage ranges, the cutouts are constructed, with few exceptions, in the same manner. The intermediate voltage cutouts, for example, consist of two $^{3}/_{4}$" diameter aluminum discs separated by means of an asbestos washer. A hole in the center of the asbestos washer is filled with finely divided aluminum powder. The aluminum discs and the asbestos washer are then firmly cemented together.

After the cutouts are completely tested, they are dropped into a container which holds 20 units. This container, of turned wood with a screw cap, was adopted for the packaging of the medium, low and intermediate film cuts because it is inexpensive, light in weight and handy for the repairman to carry with him right in his pocket.

A spring is inserted before the cap is screwed on. This serves to hold the film cutouts in one position and takes up the space as they are used, to protect them from vibration and jarring while being carried around in the course of a day's work.

After the cap is screwed down, a label is then placed around the container where the cap and bottom meet. This acts as a seal and also identifies the type of cutout the container holds.

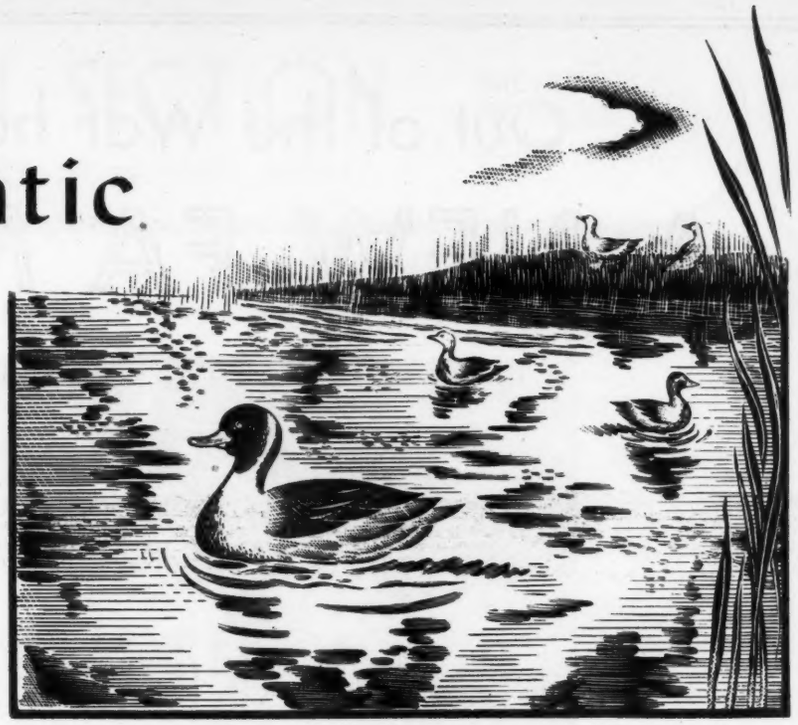
Five of these round, wooden containers holding 20 of the film cutouts each are then packed in a cardboard carton which in turn is labeled with quantity and description and dated with the month and year of manufacture. The completed package is then ready for shipment.

If the packages are severely jarred, the aluminum powder may be knocked to one side of the cutouts and performance would be affected. A wooden container, the company has discovered, tends to absorb shock, yet provides strength for adequate protection. The fact that moisture does not condense on the wood is another great advantage.

* Assistant Foreman, Westinghouse Electric Corp., Cleveland, Ohio.

† A cutout is opposite of a fuse as used in lighting circuits. A fuse breaks the circuit; a cutout re-establishes the circuit when one lamp burns out so that the rest of the lamps in the circuit will continue to operate.

It's Automatic



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We have many highly specialized machines, a lot of them designed and built exclusively for us, to do this work.

Automatic production is not all that Burt offers, however. Our packages are known for their uniformly high quality, good appearance and strength. That is why many of America's leading mass packagers of cosmetics, drugs and other products rely extensively on Burt for their packaging requirements.

We specialize in the automatic production of small square, round, oval set-up boxes, fibre cans and folding cartons. Our location is central for efficient delivery.

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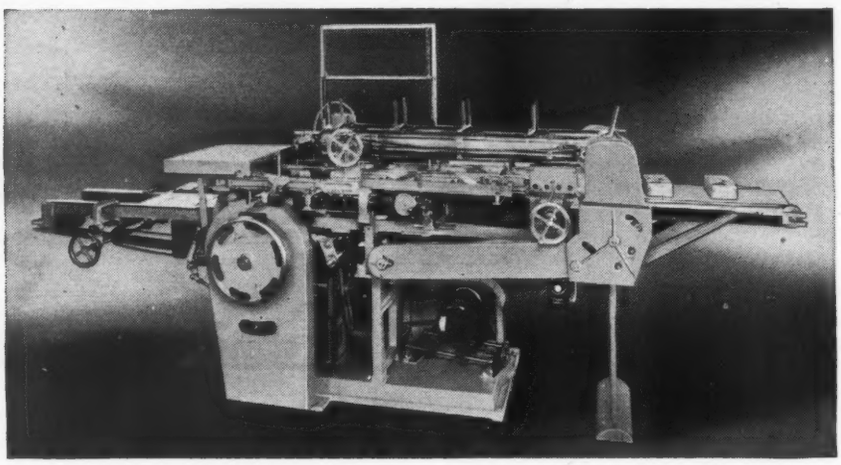
Out of the War has come

A NEW FA MODEL



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Dehydrated foods in non-metallic containers—

by F. A. Isherwood*

This study deals with resistance of non-metallic packages to the penetration of oxygen, the main interest being the development of a plasticized gelatin covering which can be used in conjunction with any good moistureproof film for packaging dried foodstuffs which require the exclusion of oxygen.

Problems in the construction of a non-metallic type of package resistant to the penetration of oxygen are:

1. Selecting materials which will be only slightly permeable to oxygen and yet will make a robust moistureproof container.
2. Forming these materials into a gas-tight container.

The extent to which the penetration of oxygen can be tolerated depends upon the quantity of oxygen necessary to cause a sensible deterioration in the quality of the dehydrated food or a definite shortening of its storage life. The absorption of 0.05 ml. of oxygen (N.T.P.) per g. (3)† causes a deterioration in the quality of spray-dried full cream milk powder and hence if this powder is packed initially in an inert gas not more than this quantity of oxygen must penetrate the covering during the period of storage. For a container 2 in. by 2 in. by 3 in. packed with spray-dried full cream milk powder at a density of 0.6 g./ml., the quantity of oxygen necessary to cause damage is 5 to 6 ml. If one assumes that the package is free from leaks and that the period of storage is 12 months, then this figure is equivalent to a maximum permeability of 0.005 ml./meter²/24 hrs./mm. Hg.

A similar calculation can be made for other sizes of container and for other dehydrated foods, but as the size quoted is a very common one and as spray-dried full cream milk powder is sensitive to the absorption of oxygen, the figure given has been taken as a suitable standard by which to judge the usefulness of the various packaging materials.

For the sake of comparison, figures for the permeability to air (those for oxygen are of a similar order of magnitude) of a number of commercial wrapping materials have been abstracted from the literature and are given in Table I.

The permeability of some of the materials in Table I is sufficiently low to be promising, assuming that packages can be made which are free from leaks. Experience with commercial and experimental rectangular packages reputed to be gas-tight has shown that leaks at the corners and closures are the main cause of failures. To overcome this, an impermeable covering can be applied by dipping the carton containing the dehydrated food, for example, into a melt of a rubberlike polymer and wax, so that on withdrawal the package is covered with a continuous film of the impermeable material. Even so, the corners still remain the points liable to show or develop leaks.

TABLE I—PERMEABILITY OF WRAPPING MATERIALS TO AIR

Material	*Thickness in inches*	*Permeability, ml./m.²/24 hrs./mm. Hg*
Regenerated cellulose [6]	0.001	0.02
Waxed regenerated cellulose	0.0016	0.008
Cellulose acetate [6]	0.002	0.57
Rubber hydrochloride [7]	0.0016	0.13–1.3
Cellulose nitrate [6]	0.004	3.2
Vulcanized rubber [6]	0.005	6.3
Waxed glassine	0.0015	92
Polyvinylidene chloride [4]	0.00125	circa 0.02

In attempts to obtain a sufficiently robust material which could be applied by dipping, a preliminary examination was made of the available synthetic rubbers, plastics and other substances such as gelatin and sodium alginate. Tests indicated that the majority were too permeable to oxygen to be of much use and many could only be applied from solvents which had a strong smell or were toxic. Gelatin, however, appeared to offer promise because its permeability to oxygen was very low (2) (about the same as that of regenerated cellulose; see Table I); it was robust and could be applied without difficulty from a warm aqueous solution. The rapidity with which the concentrated aqueous solutions gelled below a temperature of about 30 deg. C. also seemed likely to be an advantage. The covering based on the use of gelatin has been

This is the first of two articles reporting on a British study of a method of producing oxygen-resistant packages. Part I describes thoroughly the laboratory procedures and method and includes the complete test results and data. The very low oxygen permeability of the gelatin coating is substantiated by the laboratory data obtained on a theoretical package. Part II, next month, will describe the results of a small-scale commercial trial of this gelatin coating on dehydrated meat.

* Low Temperature Station for Research in Biochemistry and Biophysics, University of Cambridge and Dept. of Scientific and Industrial Research
† Numbers in parentheses refer to "References" appended.

developed to the stage at which one can obtain rather more than 98% of packages free from leaks. As the covering is not resistant to water vapor, it must be overwrapped with a good moistureproof material.

Plasticized gelatin covering

The covering of plasticized gelatin is formed by dipping the package containing the dehydrated food into a warm aqueous solution of gelatin and glycerol (about 25 to 30% of gelatin and 20% of glycerol in water), so that two-thirds of the surface is covered. Any excess of gelatin solution is allowed to drain off and then the package is placed on a tray, coated end uppermost, and dried. The uncoated portion is dipped in a similar manner, the two coatings overlapping and joining to give a continuous film which completely surrounds the package.

In early experiments, unwrapped blocks of compressed dehydrated food were dipped instead of packages, the idea being to obtain an oxygen-resistant covering which would also be edible; this was not developed because the irregular surface of the blocks tended to pick up too great a quantity of the gelatin solution.

Pretreatment of package before dipping

Early experiments showed that a large proportion of the final gelatin-covered packages were not air-tight because leaks occurred at corners and edges. A careful study of the conditions under which dipping was carried out indicated that the surface tension of the aqueous solution of gelatin was largely responsible because it caused a marked movement of liquid away from any edges and corners. The effect was very pronounced when the covering of gelatin was applied over a preliminary wrapping of moistureproof paper, and in later experiments, blocks wrapped in moistureproof paper were used, to determine what modifications of the simple dipping process would give complete freedom from leaks. The various modifications proposed were critically compared in a comprehensive experiment, the results of which are described in Table II. For this experiment blocks of compressed dehydrated beef, 2 in. by 2 in. by 1 in., were wrapped either by hand or by machine in a double paraffin-waxed paper. The wrapped blocks were dipped under standard conditions of time and temperature (see *Dipping*) unless otherwise described. The solution of gelatin was made up of 80 g. of gelatin and 54 g. of glycerol dissolved in sufficient hot water to bring the final volume to 300 ml., with the addition of 0.5% of Turkey Red oil when the gelatin had dissolved. The wrapped blocks after dipping were dried in a hot-air oven at a temperature of 42–43 deg. C. The gelatin-covered blocks were then tested for the absence of leaks by two methods:

1. *Pressure test*—The packages were tested under reduced pressure. A small glass tube was cemented onto the covered block with a warm solution of gelatin, and as soon as the gelatin had hardened sufficiently a needle was passed down the glass tube and a hole was punctured in the covering. The tube was then connected to a manometer and a suction pump. The pressure of the air inside was reduced by about 10 cm. of water below that of the atmosphere and the suction pump disconnected. If the pressure recorded on the manometer remained stationary for at least 15 minutes, the covering was free from leaks.

2. *Analysis of the gas in the headspace*—The packages were tested for resistance to the penetration of oxygen. They were filled with pure nitrogen (99.5–99.8%) in a similar manner to that described for tinplate containers, (3), the brogue holes being sealed with a spot of a warm solution of gelatin. The gas in the headspace was analyzed after 7–10 days at room temperature. Any result above 1% of oxygen was regarded as indicating an imperfect covering. This test was more severe than the last one because it indicated the presence of thin places in addition to definite leaks.

Packages which were not free from leaks were inflated with air at a pressure of 6 cm. of mercury above that of the atmosphere and were immersed in acetone. A stream of bubbles indicated the position of the leaks.

A comparison of the results obtained with blocks wrapped by hand and by machine shows that hand wrapping is preferable; the proportion of sound gelatin-covered packages is higher because there are no small gaps or imperfections in the seals which the solution of gelatin cannot bridge during the dipping process.

Flattening the corners before dipping helped to reduce the proportion of unsound packages, but was not completely effective.

TABLE II—EFFECT OF VARIOUS PRE-TREATMENTS ON THE CONTINUITY OF THE FINAL GELATIN COVERING

Method of wrapping	Pre-treatment of package	Number of complete coatings	Number of packages examined	Freedom from leaks	
				Method 1 %	Method 2 %
Wrapped by hand	None	2	50	40	40
Wrapped by hand	None*	1	50	...	84
Wrapped by hand	Corners flattened	1	50	70	50
Wrapped by hand	Corners flattened	2	50	70	70
Wrapped by hand and very carefully sealed	Corners flattened	1	40	75	...
Wrapped by hand	Paper banded with gelatin	1	150	90	85
Wrapped by hand	Paper banded with gelatin	2	150	100	100
Wrapped by hand and very carefully sealed	Paper banded with gelatin	1	100	100	...
Wrapped by hand	Paper banded with gelatin and corners flattened	1	50	90	90
Machine wrap	None	2	300	24	...
Machine wrap	Corners flattened	2	300	44	...
Machine wrap	Paper banded with gelatin	2	200	100	99
Machine wrap	Paper banded with gelatin and corners flattened	2	50	96	...

* In this case the wrapped blocks were dipped into the solution of gelatin when the temperature was only just above its gelling point instead of being at least 10–15 deg. C. above.

In order to obtain at least 98% of the packages free from leaks, the film of plasticized gelatin on the corners must be reinforced. The best method is to use moistureproof paper which has two bands of gelatin film of the same composition as that of the final gelatin covering (or perhaps containing a larger proportion of Turkey Red oil), running lengthways on the surface so that when the paper is wrapped around the block of compressed dehydrated meat, the gelatin bands are in a position to cover each corner. The bands are $^5/_8$ in. wide and are placed symmetrically on the paper. The distance from the middle of one band to the middle of the other is 2 in. The covering of gelatin produced by dipping then forms a continuous film even if the blocks are wrapped in this treated paper by machine.

In the early experiments the band of gelatin was applied by hand, using a thin flexible steel palette knife which was dipped at intervals into the warm solution of gelatin. The knife was held in an inclined position and drawn lengthways on the surface of the paper. A later development was to run the warm solution down the underside of the knife at the same time as the solution was spread on the waxed paper.

Based on this idea, a simple laboratory machine has been constructed in which the process of banding the waxed paper has been made continuous. A pair of flexible steel knives, spaced about 2 in. apart, are used, and the two bands applied simultaneously. The waxed paper is moved at a steady speed and the conditions adjusted so that uniform bands of the desired thickness are produced. The waxed paper is held against the knives by a flat, smooth board. Rubber-covered rollers can be used in place of the steel knives and the solution of gelatin printed onto the waxed paper. When the bands have been applied to the waxed paper it is wound onto racks and dried in a current of warm air at a temperature of 40 deg. C. Some types of waxed paper tend to buckle unless kept under a slight tension, but, after drying, this trouble disappears and the banded paper can be wound into rolls very easily.

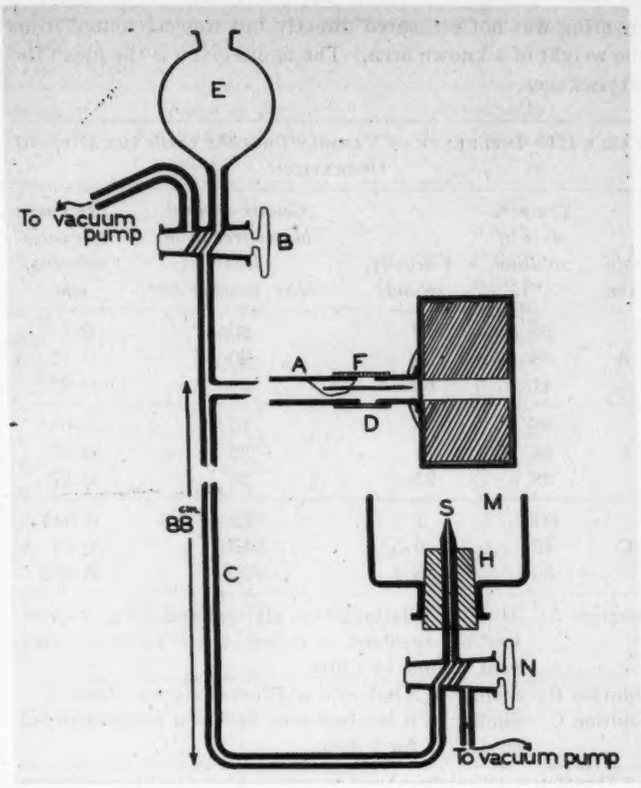
The thickness of the dried band of gelatin should be approximately equivalent to that desired for the final covering of gelatin on the flat surfaces. In most cases this is about 0.2–0.4 mm. thick and would correspond to a weight, for a single band of gelatin on a meter length of paper, of about 4–8 g.

Trials with wrapping machines, using gelatin-banded double paraffin-waxed paper, have indicated that it is advisable to control the temperature of the heat-sealing device very carefully so that the paraffin wax just melts. If the temperature is too high, the gelatin band will soften and tend to stick to the faces of the heat-sealing device, although the film of molten paraffin wax usually present acts as a lubricant and prevents this from causing serious damage.

Aqueous solution of gelatin

The solution for dipping is made up of 80 g. of good quality gelatin and 80 g. of glycerol dissolved in sufficient hot water to bring the final volume to 300 ml. When the gelatin has dissolved, 0.5% of Turkey Red oil and 0.02% of sodium *o*-phenyl phenate are added. The *o*-phenyl phenate can be omitted for small-scale work.

The addition of glycerol to the gelatin solution improves the mechanical properties of the dried film and prevents any considerable contraction during drying such as occurs with plain gelatin. Sufficient glycerol must be used so that the dried film is flexible at a temperature of −10 deg. C. and a relative humidity of 15%, and yet is convenient to handle during the dipping and drying operations. Too great a proportion of glycerol tends to make the film sticky.



1—*This is gas sampling apparatus used in the experiment.*

The addition of a detergent to the dipping solution is necessary because traces of grease on the outside of the moistureproof wrap or package would otherwise prevent the gelatin solution forming a continuous film. Turkey Red oil has been chosen arbitrarily and, if necessary, can be replaced by any other good detergent.

The sodium *o*-phenyl phenate is added mainly as a precautionary measure to prevent any possibility of mold or bacterial growth when the gelatin solution is left for long periods.

The solution of gelatin and glycerol is held in a metal bath surrounded by an outer water jacket, the temperature of which is thermostatically controlled at about 42 deg. C. The temperature of the solution itself is about a degree lower. During dipping operations the solution is stirred continuously so as to prevent a skin forming on the surface. A paddle-wheel type stirrer is used, the vanes of which are completely submerged so that no air bubbles can be entrapped in the solution owing to the movement of the stirrer.

The temperature and concentration of the solution of gelatin are not the only factors which influence the dipping operation. The viscosity of the solution, the thickness of the final covering and the ease with which any surplus solution drains away from the dipped packages are also very important. The results of a simple experiment in which these various factors were studied are given in Table III. The method used was very similar to that employed in connection with Table II, except that all the blocks of dehydrated meat were wrapped in double paraffin-waxed paper banded with gelatin, and then given one complete coating. The viscosity was measured in a simple Ostwald viscometer and is recorded in the table as the time in seconds for a fixed quantity of the solution at the temperature of the bath to pass between two marks on the stem of the viscometer. Glycerol at a temperature of 20 deg. C. gave a figure of 17.5 seconds. The thickness of the final

covering was not measured directly but was calculated from the weight of a known area. The figure given is the mean for 20 packages.

TABLE III—INFLUENCE OF VARIOUS FACTORS UPON THE DIPPING OPERATION

Solution	*Temperature of solution, ° C.*	*Viscosity, seconds*	*Gelatin-covered blocks free from leaks (Max. number 20)*	*Thickness of gelatin covering, mm.*
A	58.5	12	20	0.1
	48	21	20	0.11
	41	60	20	0.2*
B	56	8	15	0.05
	48	11	20	0.07
	38.5	25	20	0.17
C	60	3	12	0.045
	45	5.5	17	0.04
	39	8.5	20	0.062

Solution A: 340 g. of gelatin, 230 g. glycerol and 4.5 g. Turkey Red oil dissolved in sufficient hot water to bring final volume to 1 liter.
Solution B: Similar to A but with addition of 150 ml. of water.
Solution C: Similar to B but had been held at a temperature of 56 deg. C. for 2 days.

* The solution did not drain away properly and left a very ragged uneven corner and edge. The other solutions were satisfactory.

The results show that the viscosity of the solution into which the packages are dipped should be suitably adjusted. If the viscosity is too low (a viscometer reading of less than 8–10 seconds) the packages are not free from leaks and if the viscosity is too high (a viscometer reading of more than 60 seconds) the surplus liquid on the dipped packages does not drain away properly and a ragged, uneven edge is left which interferes with the final wrapping of moistureproof material. The viscosity must be measured immediately before dipping because the initial viscosity of an aqueous solution of gelatin does not remain constant but tends to decrease with time owing to the degradation of the gelatin. When a large number of packages are being dipped and the solution is held at a temperature of 40–45 deg. C. for prolonged periods, the viscometer reading should be checked every 3–4 hours, and if necessary maintained at the initial value by the addition of more gelatin and glycerol. A reading of 15–20 seconds at a bath temperature of 41 deg. C. gives the most satisfactory results.

Dipping

The package is dipped into the solution of gelatin in such a manner that no face is parallel to the surface of the liquid, thus avoiding the formation of air bubbles. About two-thirds of the package is immersed and then slowly withdrawn and held to allow the excess solution to drain away from one corner; when no more drains away the package is inverted so that the partially gelled solution on the corner tends to run back onto the adjacent faces. The package is then dried. The uncovered portion is dipped in an exactly similar manner, the two coatings overlapping. The package is again dried. Usually two complete coatings (four dips) are given. The times required for each of the stages of dipping, draining and holding in the inverted position are 5, 10 and 5 seconds, respectively.

A simple machine has been designed to carry out the dipping operation. The packages are fixed in clips on the rim of a 28-in. bicycle wheel which rotates in a vertical plane at a slow, uniform speed above a solution of gelatin kept at a constant temperature. The wheel is so arranged that just over one-half of the package is coated at each dip and the rate is slow enough to insure that no excess liquid remains to drain on withdrawal. The edge last in contact with the solution tends to be much thicker than the others, but this is immaterial. When the package has reached the highest point of the wheel, the coating will have gelled sufficiently for it to be handled. The package is then removed and replaced by a fresh one. The wheel holds 16 packages at any one time.

Drying

The coated packages are placed on trays in a small cabinet. Air at a temperature of 42–45 deg. C., a relative humidity of 15–20% and a velocity of about 12 ft./sec. is circulated over the trays to dry the gelatin film. Under these conditions about 30 minutes is required to reach constant weight but there is very little decrease in weight after 15 minutes. A higher temperature shortens the time necessary but has the disadvantage that the gelatin-covered packages tend to stick to each other if they accidentally touch while still warm. This effect becomes pronounced above a temperature of 50 deg. C.

The amount of water absorbed by the dehydrated food inside the package during the dipping and drying operations is very small. Blocks 2 in. by 2 in. by $^3/_4$ in. of dehydrated carrot powder wrapped in a double paraffin-waxed paper of poor quality and given two complete coatings (four dips) and then dried in the usual manner for 15 minutes did not absorb sufficient water to raise the water content (initially 6%) by more than 0.3–0.5%. Larger blocks or the use of a better waterproof paper gave even more satisfactory results.

Determination of permeability of a gelatin covering

The permeability of a film can be measured in a simple permeameter such as that used for balloon fabrics (5), but this has not been adopted in the present case because the film does not include defects which may occur in the covering of plasticized gelatin as a result of the method of application. Tests have therefore been made on packages covered with the plasticized gelatin. The procedure is to fill the packages with pure nitrogen and, by analysis of the gas inside, determine the amount of oxygen which has penetrated through the covering. From a knowledge of the volume of gas inside the package, the increase in oxygen content during storage, and the area of the package it is possible to calculate the mean permeability of the whole gelatin covering.

Preparation of the package: In order to obtain results quickly, a special type of package is used in which the volume of gas inside is very small in relation to size of package.

Uniform rectangular blocks of high melting point paraffin wax (2 in. by 2 in. by $^7/_8$ in.) are made by compressing 50 g. in a steel mold at a pressure of 2,500 lbs./sq. in. and holding for 30 seconds. This gives a robust block which does not contain any enclosed air. A hole ($^1/_4$ in. in diameter) is drilled right through each block from the center of one of the large faces (2 in. by 2 in.). The blocks are then wrapped in gelatin-banded moistureproof paper and covered with plasticized gelatin as described previously. A hole ($^1/_2$ in. diameter) is made in the covering to correspond with the one running through the block. Air inside is removed and replaced by nitrogen (99.9%) using the same general technique as that described for tinplate containers (3), except that in this case a glass desiccator is used and before the packages are removed

TABLE IV—PERMEABILITY OF A PLASTICIZED GELATIN COVERING
(GLYCEROL: GELATIN RATIO ABOUT UNITY)

*Mean thickness of covering, mm.**	*Duration of storage days, T*	*Volume of gas inside package, ml. (N.T.P.), V*	*Oxygen content of gas, %, −0.5,† B − C*	*Volume of oxygen penetrating covering, ml. (N.T.P.)*	*Permeability, ml. O_2/m.²/day/mm./Hg K*
0.13	4	3.0	1.1	0.03	0.005
0.185	4	2.7	1.8	0.05	0.008
0.138	4	4.9	1.7	0.08	0.014
0.19	8	3.2	5.0	0.16	0.014
0.15	8	4.7	4.3	0.20	0.018
0.13	8	3.9	2.5	0.10	0.008
0.156	8	5.6	3.9	0.22	0.019
0.12	9	4.7	6.3	0.30	0.026
0.12	9	5.6	5.0	0.28	0.023
0.15	9	5.6	3.9	0.22	0.017
0.155	9	5.1	3.5	0.18	0.014
0.13	9	4.3	5.6	0.24	0.020
0.17	14	5.1	5.9	0.30	0.016
0.16	14	5.6	5.9	0.33	0.018
0.16	14	4.7	4.2	0.20	0.010
0.14	15	5.4	4.4	0.24	0.012
0.195	15	3.0	6.2	0.19	0.009

* The oxygen content at the start of this experiment was 0.5%.
† The covering was stripped from the base paper and weighed. The mean thickness was calculated assuming the density to be 1.3 and the area 100 sq. in. Storage at 20 deg. C. and 50% R. H.

from the atmosphere of nitrogen the hole in the covering is sealed with a spot of a warm aqueous solution of gelatin (25%). The packages are then stored in air at a controlled temperature and relative humidity.

Gas sample. The amount of gas between the covering and the block is usually not greater than about 3–5 ml. and in order to obtain a sample of 0.3–0.5 ml. for analysis, it is necessary to employ a special technique.

A small glass tube (6 mm. diameter, 15 mm. length) is fixed on the center of one of the large faces (2 in. by 2 in.) of the package in line with the hole running through the center of the paraffin wax block. A hot aqueous solution of gelatin is used as adhesive and care is taken to make the junction gas-tight. The package is then connected (see Fig. 1) by the glass tube to *A* on the gas sampling apparatus, the rubber sleeve *F* being slipped over so that the steel needle *D* is close to the covering but not actually touching. The reservoirs at *E* and *M* are filled with clean mercury, the tube "*S*" of *M* being covered. Tap *B* is turned so as to connect the tube *C* to a high vacum pump. The system is evacuated to a pressure less than 0.01 mm. of mercury, the level of the mercury in tube *C* rising to practically barometric height. Tap *N* is open during these operations so that mercury can flow from the reservoir at *M* into the tube *C*. Tap *B* is closed. If the level of the mercury in tube *C* remains unaltered for $^1/_2$ minute, the junction at *A* is free from leaks. The package is then pressed against the steel needle *D* so as to puncture the covering. The level of the mercury in tube *C* falls a short distance and then, if the covering is sound, remains stationary. Tap *B* is turned to allow mercury from the reservoir *E* to run in small quantities down the tube *C* and sweep a sample of the gas to *S*, where it is collected in a graduated gas sampling tube. The gas sampling tube is previously evacuated and filled with mercury by placing it over the end of tube *S*, pressing it well down into the mercury against the bung *H* and cautiously opening tap *N* so as to connect *S* with the vacuum pump. As soon as the air is removed tap *N* is closed and the gas sampling tube lifted slightly from the bung to allow the mercury to enter. It is then ready for the gas sample. When about 0.5 ml. (N.T.P.) has been collected, the sampling tube is transferred to the capillary Eudiometric apparatus of G Bonnier and L. Mangin (1) [see D. Thoday (8)] and the gas inside analyzed. The total volume of gas inside the package is measured by continuing to run mercury from the reservoir *E* until the volume of the gas collected in the second graduated sampling tube at *S* no longer increases. This takes a few minutes. The level of the mercury inside is then adjusted until it is the same as the mercury outside by moving the gas sample tube up or down as is necessary. The volume of the gas is then measured, and added to that taken for analysis.

Calculation: The permeability of the whole covering of plasticized gelatin has been calculated using the formula

$$K = \frac{'(B - C).V.100.}{A.T.:760\left(20.9 - \frac{B + C}{2}\right)}$$

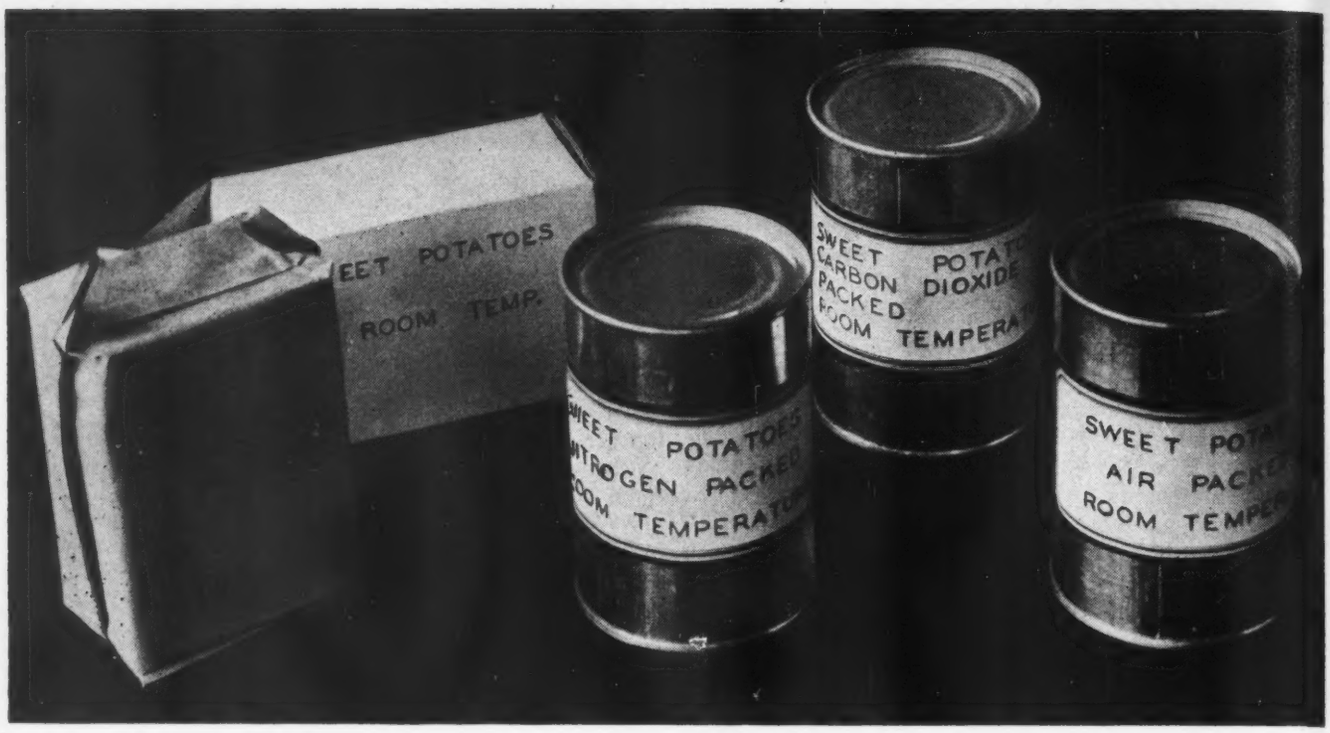
in which A = Area of the covering in square meters, in this case 0.01.
V = Total volume of gas inside package in ml. (N.T.P.).
B = Concentration of oxygen in % at time T.
C = Initial concentration of oxygen in %.
T = Time from start of experiment in days.
K = Permeability in ml. of oxygen (N.T.P.) per square meter per day per mm. of mercury.

This formula is approximately correct so long as the concentration of oxygen does not rise above 5–6%.

The oxygen content of the gas inside the packages can be measured to the nearest 0.2% and the sensitivity of the whole method is such that 0.01 ml. of oxygen penetrating the 100 sq. cm. of the covering can easily be detected.

The results on packages which have been given one complete coating and then stored in air at a temperature of 20 deg. C. and a relative humidity of 50%, are shown in Table IV.

The average permeability of a single coating in this experiment was 0.015. In a similar experiment in which the packages had been given two complete coatings the average permeability was 0.005, the thick- (*Continued on page 166*)



These are the various containers which were used in the packaging studies on dehydrated foods reported here.

Gas packing *of dehydrated fruits and vegetables*

*by W. K. Neuman**

Eliminating oxygen from the package has been shown by a recent series of tests to be an important factor in determining consumer acceptance of many dehydrated fruits and vegetables. A study recently completed by the research department of Continental Can Co. reveals that these products should be added to the growing list of foods which are known definitely to be preserved better in the absence of oxygen. Specifically, the results prove that packing in an inert atmosphere—gas packing—is of considerable help in retaining the original good flavor as well as the oxygen labile vitamins, carotene (pro-Vitamin A) and ascorbic acid (Vitamin C) of a number of foods.

This study was undertaken when it became apparent from reports coming back from overseas that a great deal more needed to be known about the proper packaging and storing of dehydrated fruits and vegetables. These products were excellent when produced, but apparently suffered extensive decrease in quality before being consumed. Something had to be done. But first it was necessary to see and study the changes that were taking place. This meant working with products actually being produced on commercial equipment, rather than laboratory or pilot plant equipment, as was too often the case in previous work. It also meant packaging the products just as was being done commercially—or at least could be done with available methods—and storing the samples under approximately the same storage conditions they would be required to withstand in regular treatment, including the best that could be expected, the average and the worst.

Accordingly, dehydrated apple nuggets, beets, cabbage, carrots, cranberries, hominy, onions, rutabagas, Irish potatoes, sweet potatoes, tomato flakes and tomato juice cocktail were selected for investigation after consultation with the personnel of the Subsistence Research and Development Laboratory, Chicago Quartermaster Depot, U. S. A. The products were secured from commercial lots at plants regularly operating on Government contracts and were packed as fresh as possible in four ways under controlled but commercially reproducible conditions. These were:

1. In cans hermetically sealed in air.
2. In cans hermetically sealed in nitrogen.
3. In cans hermetically sealed in carbon dioxide.
4. In the type of substitute paper containers that were being specified for some dehydrated foods by Government agencies at the time the experimental packs were made. These consisted essentially of 3-ply bags inserted in outer chipboard folding cartons. The inner ply of the bags was of 0.009-in. regenerated cellulose coated on both surfaces with a thermoplastic adhesive. This was heat-sealed to the middle ply of 0.00055-in. lead foil, which in turn was laminated to No. 1 kraft 40-lb. paper. In order to be sure that they were properly packed, a representative of one of the larger suppliers of such packages supervised the supplying, filling and sealing of them.

The samples of each product were divided between storage at prevailing room temperature, at 98 deg. F. and at 130 deg.

* Research Dept., Continental Can Co.

TABLE I—RECOMMENDED METHODS OF PACKAGING DEHYDRATED FRUITS AND VEGETABLES AND THEIR APPROXIMATE STORAGE LIFE

Dehydrated Product	*Approximate Storage Life*			
	At 75° F.		*At 98° F.*	
	In Air	*In Gas*	*In Air*	*In Gas*
(*Gas packing recommended*)				
Cranberries (2% moisture)	4 Months	More than 1 year	2 Months	6 Months
Carrots (5% moisture)	3 Months	1 Year	2 Weeks	2 Months
Tomato Juice Cocktail (3½% moisture)	3 Months	1 Year	1½ Months	2 Months
Cabbage (4% moisture)	1 Month	6 Months	2 Weeks	1 Month
Rutabagas (4% moisture)	4 Months	1 Year	3 Months	6 Months
Tomato Flakes (2% moisture)	6 Months	1 Year	3 Months	6 Months
Apple Nuggets (1% moisture)	1 Year	More than 1 year	6 Months	9 Months
Hominy (5% moisture)	1 Year	More than 1 year	1 Year	More than 1 year
Sweet Potatoes (5% moisture)	1 Year	More than 1 year	9 Months	1 Year
Onions (4% moisture)	9 Months	1 Year	2 Months	2 Months
(*Air packing recommended*)				
Beets (5% moisture)	More than 1 year	More than 1 year	6 Months	6 Months
Irish Potatoes (7% moisture)	9 Months	9 Months	2 Months	2 Months

F. Periodic examinations of the products in each type of package were made to determine changes in flavor, color, vitamin content and reconstitution characteristics. The paper containers stored at 98 deg. F. were also subjected to a relative humidity of 93%. These samples were weighed periodically as well as examined for moisture content to determine the amount of water absorbed. In addition, data of a more academic value, such as composition of the gas in the cans and pH of the cooking liquors, were accumulated in the hope that they would shed some light on the fundamental changes taking place.

Each product was examined over a storage period of one year, but because of the number of products and the extensive nature of the work, two years were required to complete the study, and the results of the last product packed, sweet potatoes, were not available in final form until early this year. However, the results were given to processors and Government procurement agencies as they became available each six months, in order that they might be of the greatest practical use.

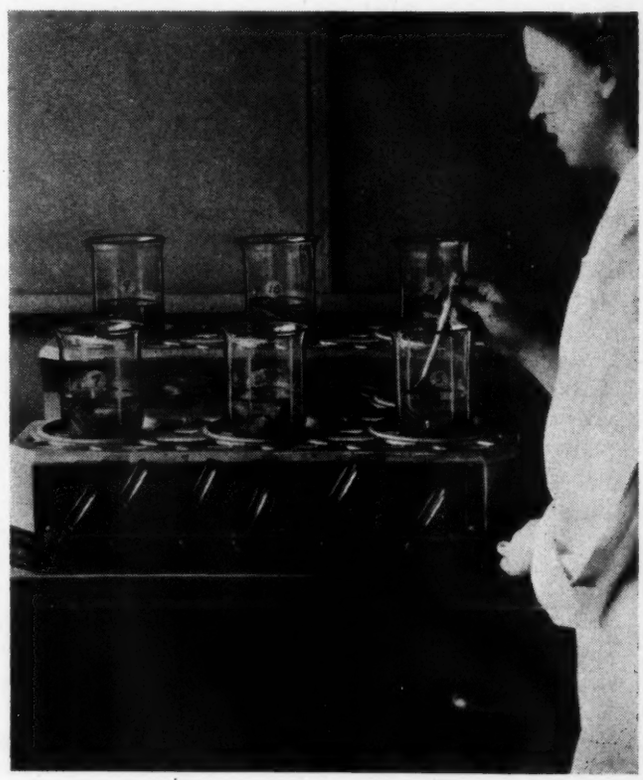
A condensed summary of all the results is incorporated in Table I. Since there was considerable variation between the products in respect to the benefits realized by gas packing, they are arranged in order of descending effect. It should be kept in mind, when reviewing this table, that the products tested were of the moisture contents indicated and none was treated with sulphites. It is expected—and this will be enlarged upon later—that lowering the moisture content and, in several cases, sulphiting will increase the storage life.

The position of the product on this table was largely determined by the extent of the effect of oxygen on flavor. It might be well to point out here that there was no difference between sealing in nitrogen and in carbon dioxide. This is of interest because carbon dioxide does impart a foreign flavor to some other food products.

Besides its effect on flavor, oxygen was found also to have an adverse effect on vitamin content and in several cases on color. In this work only the predominating vitamins in each product were studied, limiting the analyses to carotene (pro-Vitamin A), ascorbic acid (Vitamin C), thiamine (Vitamin B_1) and riboflavin (Vitamin B_2). Of these, carotene and ascorbic acid were found to be oxygen labile; the others were not. This agrees quite well with the results of other tests. Such products as carrots, sweet potatoes, tomato flakes and tomato juice cocktail were found to be high in carotene, while cabbage, onions, rutabagas, tomato flakes and tomato juice cocktail were high in ascorbic acid. These, then, require minimum oxygen packing for maximum retention of these valuable nutrients. The original red or orange color of products like carrots, sweet potatoes or rutabagas was preserved decidedly better in the oxygen-free packages than it was in the others.

In comparing the metal and the paper containers for those products which do not require gas packing, the data indicate little preference for one over the other where the product is stored at normal temperatures and humidities. However, when the packages were stored at 98 deg. F. and 93% humidity, it was found that even this expensive paper container—a "Rolls Royce," so to speak—permitted the products to absorb considerable moisture. This and other studies have shown that increases in moisture content of dehydrated foods can-

Preparing dehydrated food for organoleptic examination.



not be tolerated without impairment of keeping quality.

The table clearly reveals that most of the products studied had a surprisingly short storage life. This was particularly true at high temperatures. In fact it can be fairly stated that storage temperature had the greatest single effect upon the keeping quality of most of the products, although here, too, the effect varied from product to product. One or two, such as hominy and sweet potatoes, were quite stable, but most of the others proved extremely perishable at high temperatures.

Effect of temperature on heat-labile products

Although storage at 130 deg. F. cannot be considered normal by any means it was interesting to observe its decided effect, especially on some of the most heat-labile products, such as cabbage, onions, carrots, tomato juice cocktail and Irish potatoes. In these, it caused the product to become coal-black and give off large quantities of carbon dioxide, and it decidedly lowered the pH of the cooking liquors, often in a matter of only a month or two. So much carbon dioxide was given off by some products as to produce pressures as high as 18 lbs. per square inch in the cans, bulging and buckling the ends and completely bursting open the paper packages. Storage at 98 deg. F. often had the same general effect, but to a far less degree. The retention of the oxygen-labile vitamin factors, carotene and ascorbic acid, was also adversely affected by storage temperature but, in addition, the thiamine factor was reduced sharply. Only riboflavin remained stable to oxygen and heat. However, it is known that this factor is adversely affected by light.

The fundamental causes of the type of heat deterioration observed in the course of this study are not fully understood as yet, although some progress has been made. Since all the products were dried to a moisture content low enough to preclude the possibility of micro-organic growth and since the enzyme tests both at the time the products were packed and at later examinations failed to show the presence of active enzymes, the deterioration must be due to some hitherto little-studied type of autochemical decomposition. Work in connection with dehydrated eggs has shown that a similar type of deterioration in that product is due to a sugar-amino acid reaction sometimes referred to as the Maillard reaction. It was found that one of the ways to control it was to dry the eggs to a very low moisture content. As a result, Government specifications for moisture content in dried whole eggs have been successively reduced from 8% to 5% to 2% in the case of the product now being procured by the Army.

Some of the phenomena observed in this study, such as darkening in color, evolution of carbon dioxide and the lowering of the pH of the cooking liquors, indicate that the same general type of reaction may be taking place. At any rate, it is generally conceded that lower moisture contents would increase the storage life and stability. Several investigations have also shown that treatment with sulphites improves the original as well as the keeping quality of such products as cabbage, carrots and potatoes. Both of these trends of thinking are reflected in the latest Government specifications.

However, as these deteriorative changes beyond the control of the package are minimized, the role of the package becomes even more important. It is well known that the lower the moisture content, the more hygroscopic these products become; consequently the resistance of the container to moisture-vapor transmission must increase in proportion. Also, as the potential storage life of the products is increased by such measures, the benefits of packaging in the absence of oxygen become more pronounced. The experience with dried whole eggs is again a case in point. When this product was packaged at 8% or even at 5% moisture, it deteriorated so rapidly that it did not make much difference whether it was gas packed or not. However, when the moisture content was reduced to 2%, the benefits of gas packing were fully realized in preserving both the flavor and the vitamin content. Since it has been shown that some dehydrated fruits and vegetables contain oxygen-labile constituents, it is only logical that those products which this study indicated are better preserved in its absence would be benefited even more by such packing if other types of changes were minimized.

Packaging them in an oxygen-free atmosphere has another advantage for dehydrated fruits and vegetables not covered in this study. For years the producers have been troubled with insect infestation, not only from insects entering the product after packaging but also from insects in one stage of the life cycle or another being carried into the package with the product. The cereal manufacturers have the same general problem and it has been difficult to solve completely. The use of a metal package, of course, automatically prevents the little pests from entering from the outside once the package has been sealed. There are many which are known to attack and even thrive on various kinds of paper, but none precocious enough to get inside an hermetically sealed metal container have been found as yet.

Moreover, insects, like any form of animal life, require oxygen to live. It is known that reducing the oxygen content of a container to about 3%—well within the range of commercial gas packing operations—will destroy all forms of insect life including the bothersome microscopic eggs.

Gas pack versus vacuum pack

In this investigation the products were gas packed rather than vacuum packed because it was desired to duplicate commercial methods. They are being packaged in comparatively large-sized containers on Government contracts and, where an oxygen-free package is called for, gas packing is used. This is because the size of the container which can be vacuum packed without distortion is definitely limited.

When vacuums representing good commercial practice—for example, 28 in.—are obtained, a pressure differential of better than 14 lbs. per square inch is built up on the walls of the container, tending to force them in. Although the walls of a can are made of steel, they are comparatively thin and, consequently when the size of the can is much larger than the familiar coffee can, the total force is greater than it can withstand, and panelling and often collapsing of the walls occur. Even on small cans the strain is appreciable, tending to increase the incidence of leakage especially in the case of those dry products which provide little or no internal support. Moreover, the thickness of the can walls is limited by production and economic factors. Consequently, gas packing, wherein the pressure in the container is relieved by the gas to the pressure of the atmosphere immediately before sealing, obviates these factors. Consequently, the size of the containers which can be gas packed is limited only by the question—can it be sealed to prevent oxygen from being readmitted under all conditions of storage and handling?

Beyond this, gas packing is generally preferred to vacuum packing where low oxygen contents are required because they can normally be obtained more readily in commercial operations. For example, when oxygen contents of 0.5% or less are required in the container, it is impossible to obtain them in commercial vacuum closing machines for any reasonable operating period. Gas packing (*Continued on page 168*)

BORAX

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MOST people think of borax as a crystalline white powder used to soften hard water. But to the glass chemist, borax is a wonder-working ingredient that greatly improves the quality of glass.

Borax, when added to the glass batch, facilitates the melting and refining of the glass. And the boric oxide which borax supplies makes glass clearer, more brilliant, more durable, more resistant to chemical attack and less subject to thermal shock!

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QUESTIONS and Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 122 East 42nd St., New York 17, N. Y. Your name or other identification will not appear with any published answer.

Heat-resistant containers

QUESTION: Would you know of any small container or of any material to make a container that would keep a tablet, that under ordinary circumstances melts at body temperature, from melting at temperatures as high as 120° F? This container would be used for civilian consumption.

ANSWER: It is not possible to devise a package structure which would prevent the flow of heat into a product during storage at abnormal temperatures. Even though multiple barriers, air cells and reflecting surfaces were used, there would always be some heat flow and in a relatively short time your product would absorb sufficient heat to reach the melting point.

There are various constructions for insulating packages for temporary use. The constructions consist either of indented layers, felts, corrugations, etc., or other means for developing low heat flow. This type of container, either flexible or rigid, is used for the shipment and handling of frozen materials to the consumer. They cannot prevent the product from melting in time and so are used for known times of delivery or handling.

Bright metal wrappers have been suggested to prevent heat flow into the packaged goods, but such wrappers would be effective only in preventing a sudden temperature rise within the package or to prevent exposure to radiant heat, such as sunlight. The only answer to your problem is to mark your packages and shipping cases carefully to the effect that they must not under any condition be stored at temperatures over 90° F.

Viscous liquid in narrow-necked bottles

QUESTION: We are interested in packaging an extremely thick and viscous liquid in a bottle with a rather narrow neck. Can you give us any suggestions?

ANSWER: The proper selection of filling equipment must be based on knowledge of a great many factors. The most important factors are viscosity, foaming tendencies, size of bottle opening, speed requirements and weight or volume tolerances. The combination of a thick viscous product and a narrow mouth bottle makes it difficult to run at high speeds or at a speed which would be easy to accomplish with wide mouth jars and free flowing liquids.

You can best solve your problem by getting in touch with several manufacturers of bottling equipment and having their engineers come to your plant for a complete understanding of your particular problem.

From these meetings, you will be offered several types of equipment for accomplishing the filling and it will be your decision to decide which best fits in with your ideas of cost, speeds, etc.

Space does not permit the printing of all questions received and answers given. Last month our Technical Staff answered more than 40 inquiries. All questions are answered, whether published or not.

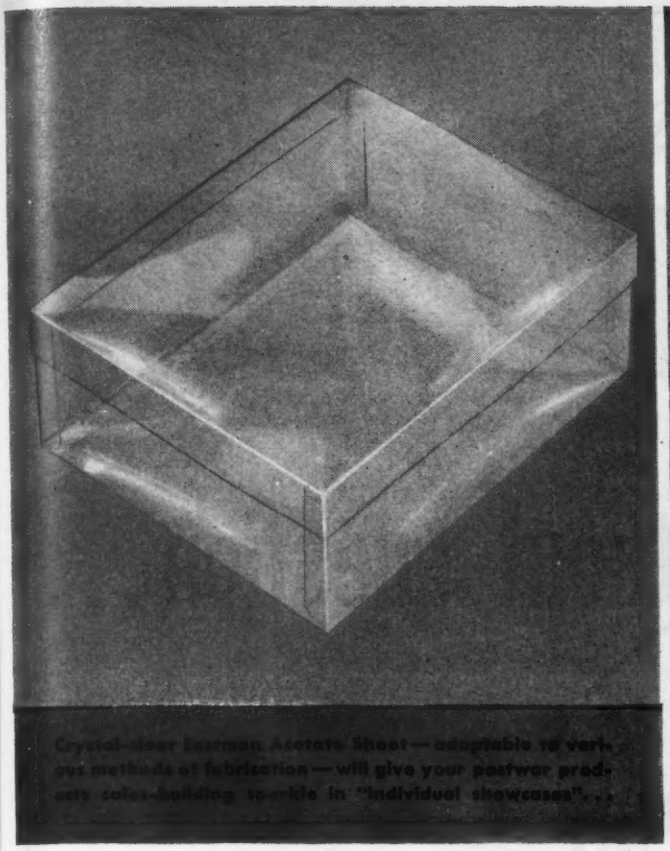
Adhesives for coating aluminum foil

QUESTION: My company has been attempting to apply a surface coating on a very thin foil (0.0004) which has been previously mounted to a thin sulfite tissue. We have had difficulty in securing good and uniform adhesion of our coatings on the foil surface. Is there any means which will guarantee the adhesion of surface films on material?

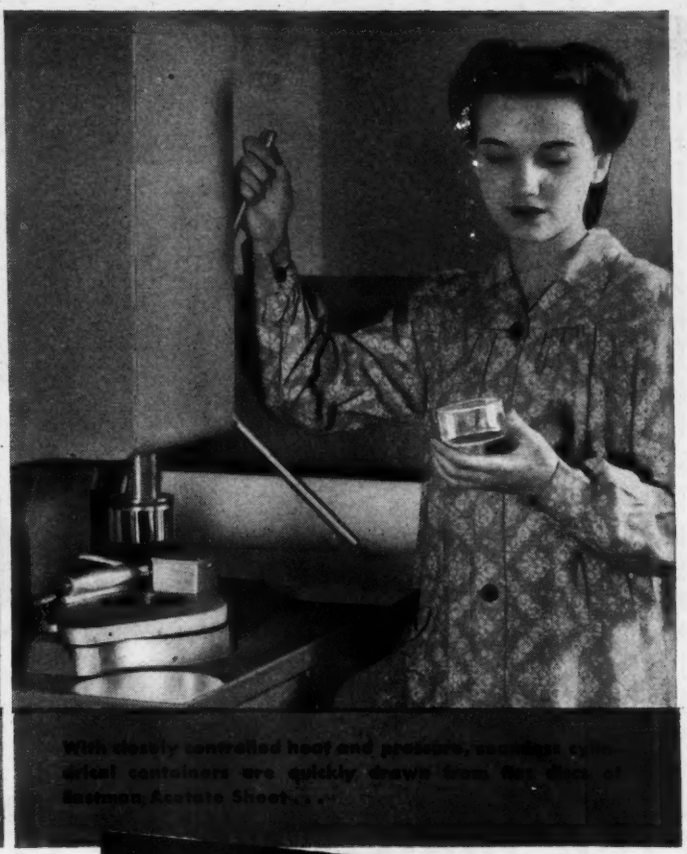
ANSWER: Unfortunately there are so many combinations of materials and surface characteristics as well as an infinite number of coating formulations that no detailed process can be suggested.

This particular problem can only be solved by a considerable amount of laboratory work in which you establish the variables in order of their importance and then develop various coating formulations which will show adhesion to particular grades or kinds of material laminated to tissue in accordance with certain specifications. This might sound very formidable and involved, but is a necessary procedure because of the large number of combinations of materials as well as performance requirements which are possible with the materials which you have described.

In your particular case some of the factors which can effect the adhesion of surface coatings on aluminum foil can be the kind and amount of laminate used to combine the foil and the sulfite paper, the porosity surface characteristics and chemical compositions of the sulfite paper, the specification in terms of temper, surface finish, etc., of the metal foil, the formulation of your coating in terms of the resin, solvent, amount of pigment, etc., and the process by which it is applied. Your research and development work in solving this problem and the writing of the final specification for satisfactory performance will be your "guarantee" of getting the product which will satisfy all requirements.



Crystal-clear Eastman Acetate Sheet—adaptable to various methods of fabrication—will give your postwar products sales-building sparkle in "individual showcases"...



With closely controlled heat and pressure, envelope cylindrical containers are quickly drawn from flat sheets of Eastman Acetate Sheet...

NO PRIORITY ON PLANNING...

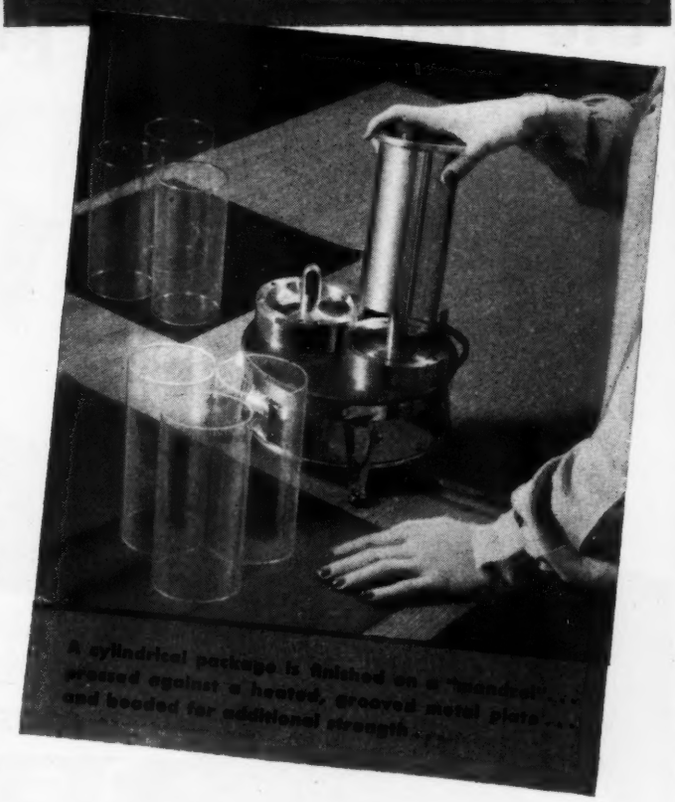
Right now, your staff can learn basic fabricating operations in the Kodak Packaging Laboratory

With equipment similar to that which might be used in any plant to make transparent plastic containers, the Kodak Packaging Laboratory is a "pilot" operation... pioneers ways to fabricate crystal-clear Eastman Acetate Sheet...

At this up-to-the-minute Kodak Laboratory, you and your staff will find an "open door"—will be welcome to experiment with this beautiful and adaptable material called Eastman Acetate Sheet. Here, various fabrication processes—drawing, beading, folding, scoring—may be watched and practiced... studied in detail... with Kodak's technicians at your elbow to help.

If you are interested in the future uses of Eastman Acetate Sheet for outstandingly beautiful containers, study its advantages now. Acetate Sheet—in any large quantity—is now restricted to war work, but there's no priority on planning. Write to:

Cellulose Products Sales Division
EASTMAN KODAK COMPANY, Rochester 4, N. Y.



A cylindrical package is finished on a "mandrel"... pressed against a heated, grooved metal plate... and beaded for additional strength...

EASTMAN ACETATE SHEET

attracts . . . protects . . . sells

Rotogravure

without question . . .

the best way to print

Champlain COMPANY, INC.

SUBSIDIARY OF THE FRED GOAT CO., INC., EST. 1893

636 ELEVENTH AVENUE, NEW YORK 19, N. Y.

Take-A-Way

Invite retail customers to take their purchases with them. Make it easy—for the retail store and for the customer—with a special "take with" package of rigid, light weight, colorful corrugated board. Such packages have high after-purchase utility value to the consumer and continue to promote your product name in the home for months after the original sale is made. Does your product lend itself to convenient "carry home" merchandising? If it does, here is an idea worth investigating.

H&D Post-War Packaging Idea

LUGGAGE BOX

Attractive, easy to carry H & D luggage type boxes furnish the merchandising background for many items including, no doubt, one or more of your products. This unusual package design can be used for effective retail display, promotes additional sales, wins dealer goodwill — three important factors for efficient merchandising. Our booklet, "Pack to Attract" will open your eyes. Send for a copy today.

Hinde & Dauch

AUTHORITY ON PACKAGING

THE HINDE & DAUCH PAPER COMPANY, 4514 DECATUR STREET, SANDUSKY, OHIO

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WASHINGTON REVIEW

R. L. Van Boskirk, Washington Editor

● **End-of-War Thinking**—The dramatic suddenness of the end of the war in the Pacific may not have come as a *complete* surprise to those Government agencies in Washington administering various types and kinds of controls over industry—but they were certainly no more prepared for the developments which followed the dropping of the atom bombs and Russia's entry into the war than were most of the people in industry who were subject to their regulations. As a result, relaxation of controls will probably take the form of a much longer-drawn-out process than most "regulatees" in any industry would like to see.

Obviously, however, the WPB, OPA, and all the rest of the war agencies could not just throw up their hands (no matter how much some of the individuals within them would have liked to do just that) and say that no holds were barred from now on. There had been some preplanning for an orderly process of control relaxation and its effects already are being seen.

Even before the actual cessation of shooting, the Government agencies, having made plans in anticipation of Japanese surrender by perhaps the end of the year, had begun loosening up on a number of regulations and had announced plans for others. One such announcement was that by WPB Chairman Krug to the effect that controls on forestry products would end immediately following V-J Day.

By the end of this year, only military orders will carry preference ratings—and in all probability there won't be many such orders. The military orders will be identified by MM ratings, the equivalent of the present AA-1 rating. Even now the old priority system is undergoing several changes as a result of new amendments.

● **Pulp Situation**—Even with the war over and industry reconverting to peacetime pursuits as rapidly as possible, the encouragement which was felt by some users of pulpwood over the possibility of pulp and paper products from Europe and the Scandinavian countries in particular, is being somewhat tempered by reports that help from this source will not be as great as was at first anticipated. With the exception of Sweden, practically every western European country's pulp and paper industries are just about nonexistent.

The principal reason behind this situation is lack of coal and disrupted transportation systems. Imports of pulp from Sweden will be limited to the inventories on hand and shipping space available. During the coming winter most of Europe will depend on wood for heating, which will utilize a big percentage (in some countries it is estimated as almost half) of the total wood production.

During July approximately 50,000 tons of Swedish pulp was received in this country; the first week in August the receipts were about 17,000 tons; it is estimated that the highest monthly expectations for some time to come won't be above 100,000 tons. Meanwhile, mill inventories in this country are dropping, as U. S. production continues to lag and at the present time are more than 20% below a year ago.

● **No More Tin for a Year**—Regardless of the end of the war, tin will continue in short supply for at least a year, WPB officials say, since additional supplies are dependent on resumption of production in the Far East. Shortages such as this will require the retention of some of the controls now affecting many types of supplies in order to achieve a measure of equality of distribution.

However, the possibility of stretching the dwindling tin stocks in this country through the use of thinner coatings is under consideration by WPB technical experts. The proposal was made by the can manufacturers, according to WPB, which took occasion at the same time to congratulate publicly the can manufacturers for their success in conserving tin. It is estimated that the conservation measures already effected will result in total tin savings by the end of this year of some 58,000 tons, more than half the total tin expected to be used this year.

The tin shortage, however, will delay the return of certain products to cans, even when steel and facilities are available. Products include beer, spaghetti, dog food, shortenings, vacuum-packed coffee.

Paper Salvage Still Needed—Informed sources in the paper industry point out that pulp production won't enjoy much increase for some time and that pulp imports—despite rosy hopes—currently show little prospect of affording material relief. Keep on salvaging scrap paper is advice to everyone in the field. It's one of those prosaic but highly necessary jobs.

● **More Strapping Available**—End of the war probably will make available for commercial use at least some of the supplemental allotment of 10,900 tons of carbon steel granted shortly before V-J Day by WPB to the metal strapping industry to meet special military requirements.

● **Paperboard Order Eased**—Converters who consumed less than five tons of pulp, paper or paperboard per quarter in 1942, may now use up to five tons per quarter in the manufacture of any converted paper products under an amendment to Conservation Order M-241-a.

● **Developments in Fibreboard Field**—Presaging a virtual end of controls over fibreboard before too long, recent actions by WPB have makers and users of this type of container feeling more optimistic than in many months. Among the actions encouraging this state of mind are: (1) Removal of the limitation on the manufacture of "sleeves" for V-boxes for packaging canned fruits and vegetables. (2) Relinquishment of direct control over the use of solid fibre shipping-container production equipment to insure total productive capacity for the manufacture of "V" and "W" boxes (even with an Army being reduced in size). (3) An increase from $500 to $1,500 in the "small-user" exemption for fibre shipping containers. Under the exemption, a maximum of $1,500 worth of fibre shipping containers may be used in a calendar year for permitted uses without WPB authorization. Firms reconverting to peacetime business or starting a new business will benefit by the increased exemption. (4) Assertion by the WPB, in response to a request for revocation of the order (L-317 controlling manufacture, delivery and use of fibreboard containers, that, while it could not revoke the order and discontinue preference ratings, the determination of military requirements sometime this month might give it cause for reconsideration. Since that time, V-J Day has come, so everyone in the industry believes some sort of relaxation is not far off.

● **Ceiling Changes for Used Paperboard Containers**—OPA believes its recent orders affecting ceiling prices for secondhand

"He *says he likes them seamless*"

WE'RE in no mood for arguments with the hosiery trade. All we know is that the Crowntainer, a seamless can, made a hit the moment we put it on the market.

The Crowntainer is actually a steel bottle. It is far stronger than ordinary cans. And because of its shape and type of construction, its uses are innumerable.

The Crowntainer is further proof of "cangenuity"—Crown's ability to combine ingenuity with can-making skill and experience. This ability is a source of profit for you. Nor is it limited to the production of new kinds of containers; it has many applications of benefit to can users. If you wish a sample, just tell us your problem.

CROWN CAN

INDEPENDENT AND HELPFUL

CROWN CAN COMPANY • NEW YORK • PHILADELPHIA • Division of Crown Cork and Seal Company, Baltimore, Maryland

paperboard shipping containers will encourage their re-use. The changes provide for only one brokerage allowance between emptier and next user and also permit emptiers to re-sell used containers at the top maximum price whether they return to the shipper-suppliers from whom purchases are made, the identical containers originally received, or others of the same size and specifications. Previously, top maximum price could be charged only on the identical containers.

● **Softwood Veneer for Boxes Only**—Issuance of Limitation Order L-350 by WPB already is acting to assure that softwood veneer, which is in short supply and is urgently needed for softwood plywood and wooden shipping containers, will not be diverted to less essential uses. Under the order, softwood veneer, produced in Washington, Oregon and California, may now be delivered only to softwood plywood manufacturers and to box manufacturers and the use of softwood veneer produced in those states is prohibited except for the manufacture of softwood plywood and wooden shipping containers.

● **Experimental Glass Molds OK'd**—Development of new types and designs of glass containers which may appear on the shelves of retail outlets when reconversion gets under way has been given a definite boost by an "interpretation" issued by WPB to L-103, the glass container order. The interpretation sets forth that, while the order freezes designs, Priorities Regulation 23 permits the making of experimental molds. Hence, experimental molds for nonstandard bottles, glasses or jars may be made by a manufacturer (WPB said), provided that such molds may be made in only one set, that is, for one machine. This ruling is expected to give impetus to new developmental work—and probably will result in new package designs for makers of glass-packaged products in a short time.

● **On Trademark Legislation**—Congress' earlier-than-expected return to Washington is expected in informed circles here to provide an opening for those organizations in the country which are supporting the Lanham Trade Mark reform bill to seek the long-awaited Senate hearings on the bill already passed by the House. The bill would authorize codification of all federal measures covering trade-marks, adapt trade-mark protection to national and international business, forbid legal action for infringement after five years of continuous use, sanction "secondary meanings" which have become distinctive, protect geographic and descriptive marks (e.g., "Idaho" potatoes) under certain conditions, grant concurrent registration of the same mark to two or more users, provided that they originally acted in good faith, enable "related" companies to use a parent company's mark, make it possible to assign a mark without simultaneously assigning an entire business, simplify Patent Office procedure and adapt domestic law to treaty obligations.

● **Changes in Critical List**—An interesting index to war supplies in the packaging field, their relative availability and their changing status is to be found in the list of critical materials and products compiled from time to time by the Joint Army, Navy and WPB committee on critical materials. A number of packaging items which were on the critical list a little more than a month ago have either been removed entirely or placed in a new list, designated the "surveillance list." The critical list contains those items which "are now or are expected to be in short supply, limiting the production of essential items or the fulfillment of programs of high urgency." The surveillance list includes items "now in approximate essential supply-demand balance, but which WPB believes must have preferential treatment in order to maintain their present position or which, by reason of some potentially increased demand, may become critical in the future."

Items remaining on the critical list as most recently issued include burlap; containerboard; manila, sisal and henequen cordage; lead; asphalt-laminated waterproof paper; plywood; pulpwood; steel sheet and strip; tin; microcrystalline wax, and sulphate woodpulp.

Moved over to the surveillance list are cotton rope and twine, jute cordage, rubber insulated tape and paraffin wax.

Eliminated from both lists in their most recent form are textile bags, nailed wooden boxes, glass containers and metal and molded closures, wood veneer containers, slack cooperage, compressed gas cylinders, steel pails, and multi-wall shipping sacks.

● **Cordage Fibres**—Because of the short supply of certain types of fibres, WPB has amended its Order M-84 covering these products. Amendments include the provision that manufacturers of wire rope may have an AA-1 preference rating for obtaining jute centers for wire rope; and that rope used for physical development, recreation and amusement activities has been included among the permitted end uses of cordage made from fibres other than manila and agave and the ruling that rope made of agave or manila fibre that has been allocated to the War Shipping Administration may be sold only to fill purchase orders approved in writing by WSA or to fulfill WSA authorizations for withdrawals from emergency stocks.

At the same time, action by the Combined Raw Materials Board was expected soon on WPB's request that the United States' allocation of burlap be increased. Jute fibers are under world allocation by the Combined Raw Materials Board.

The entire burlap situation is expected to be reviewed in October by WPB and the industry advisory committee on this commodity. A recent recommendation by the committee was that the Government continue its public purchase program for burlap through at least the first quarter of 1946. Although the industry committee members made it clear that they wanted the Government to return importing to private industry as soon as possible, they were unanimous in stating that they did not consider conditions propitious for doing so at the present time, largely because of the uncertainty of prices in India and the problem of arranging cargo discharges at normal ports of delivery in this country, principally on the West Coast, where the ports are loaded with war supplies, which were destined for shipment to the Pacific.

Adequate supplies of burlap and cotton bags for the rest of the year seem to be assured, since WPB has upped the burlap application and a new pricing procedure has been set up by OPA for cotton bag textiles. Prior to the latter action, trading in cotton bag textiles had to come to a virtual halt.

● **Commendation**—At the same time that WPB announced the dropping of many of its central controls over materials used by makers of packages of one sort and another, it took occasion to commend the containerboard industry as "an outstanding example of industrial ingenuity and cooperation in meeting the overwhelming military and civilian requirements for heavy fibre shipping and packaging materials during the war in the face of serious manpower and pulp shortages."

The WPB said it was certain the industry "will resolve any bottlenecks in reconversion, making it unnecessary to re-instate any of the controls" which the Government agency revoked.

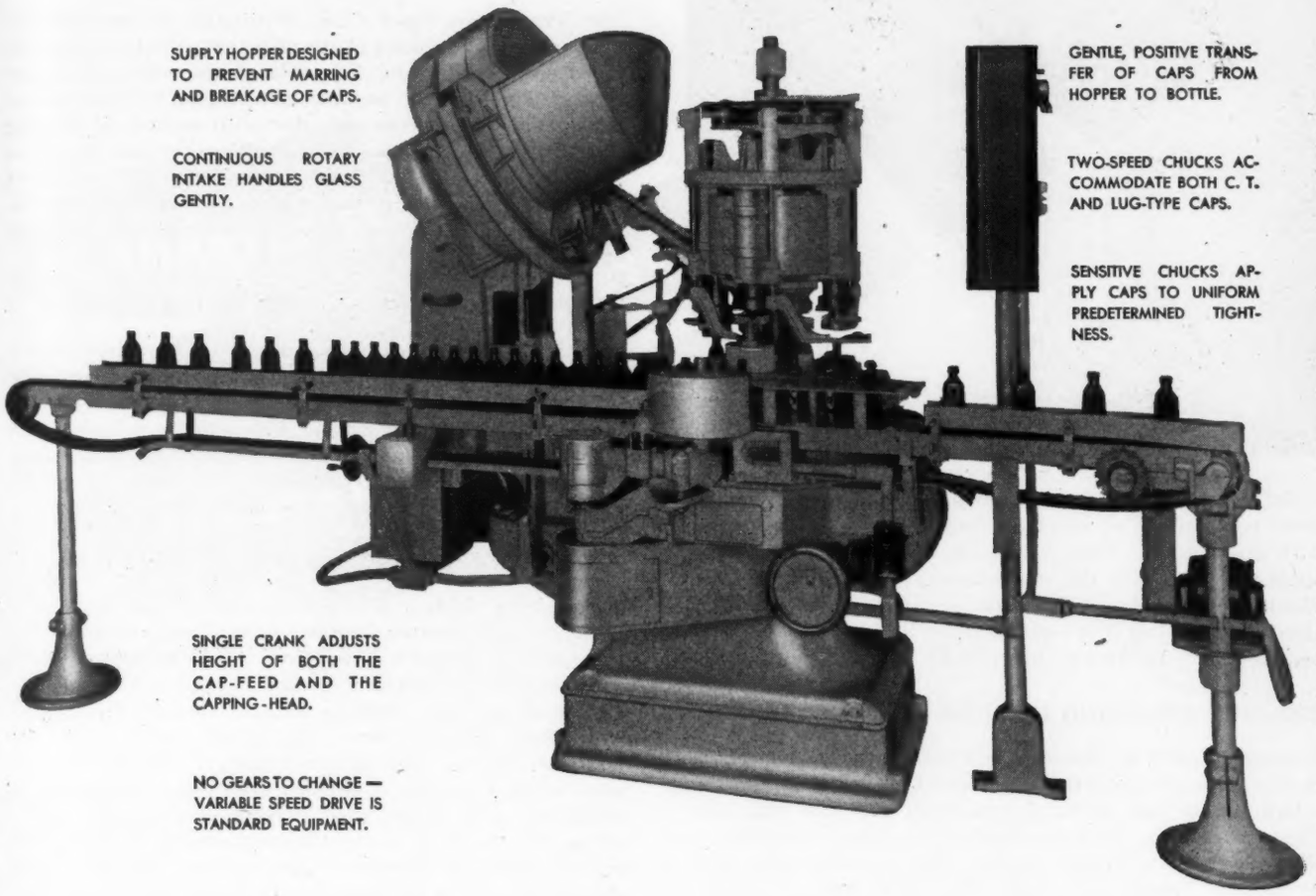
● **BRIEFLY**—Technical information received from occupied countries is being gathered by the Enemy Technical Reports Committee, and will be made available to civilian manufacturers for their use when military security classifications are lifted. It is understood that developments in the packaging field, use of substitutes, new coatings and other items will be included.

Soft drink manufacturers will spend more than $50 million to improve plants and replace equipment during the first postwar year if assured of an adequate supply of sugar and other ingredients. . . .

WPB has ruled that firms that perform packaging services for their customers without making or selling the packaged products cannot extend their customers' ratings to get wooden shipping containers. .

Because of the increased necessity for insuring that hot drink cups are used only for the purposes for which they are permitted, a certificate for each delivery of hot drink cups must now be furnished the manufacturer, and the wholesaler and jobber must pass on the original certifications, WPB has ruled. . . .

WHY PNEUMATIC CAPPING MACHINES MAKE "LOWER COST PER CONTAINER" A FACT


SUPPLY HOPPER DESIGNED TO PREVENT MARRING AND BREAKAGE OF CAPS.
CONTINUOUS ROTARY INTAKE HANDLES GLASS GENTLY.
GENTLE, POSITIVE TRANSFER OF CAPS FROM HOPPER TO BOTTLE.
TWO-SPEED CHUCKS ACCOMMODATE BOTH C. T. AND LUG-TYPE CAPS.
SENSITIVE CHUCKS APPLY CAPS TO UNIFORM PREDETERMINED TIGHTNESS.
SINGLE CRANK ADJUSTS HEIGHT OF BOTH THE CAP-FEED AND THE CAPPING-HEAD.
NO GEARS TO CHANGE — VARIABLE SPEED DRIVE IS STANDARD EQUIPMENT.

PNEUMATIC is proud of its slogan for just one reason—*because Pneumatic Machines live up to it in actual day in and day out performance*. This Four Head Automatic Capping Machine is designed, engineered, and machined to cap at **LOWER COST PER CONTAINER**—and it can and does deliver the goods. Its many unique features explain why. For full details on Cleaning, Filling, Capping, and Labeling Equipment, write to PNEUMATIC SCALE CORPORATION, LTD., 82 Newport Ave., North Quincy 69, Mass. : New York : San Francisco : Chicago : Los Angeles.

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FIFTY YEARS OF PROGRESS

PNEUMATIC
PACKAGING AND BOTTLING
MACHINERY

Equipment and Materials

HEAT SEALABLE EXPORT BAG

The Specialty Packaging Division of Marathon Corp., Menasha, Wis., announces a heat-sealing "small parts" bag for export packaging of precision-machined parts requiring high protection against grease and moisture. Constructed of heat-sealing cellophane wax-laminated to a 35-lb. kraft paper, the formed bag is

sealed by both glue and heat. The makers claim, it meets greaseproof requirements of ordnance packaging Method 1-A (and AXS-1414, Class A, Type 2) with the economy of a double-ply laminated paper. In the accompanying photograph, the first illustration shows bag with bottom heat-sealed and body seam glued. Second, bag filled and third, the filled bag with top heat sealed. In the foreground, bag is used for packaging pistons.

RESIN FOR STERILIZING COATING

Resinous Products & Chemical Co., Philadelphia, Pa., announces that its automotive resin finish, Duraplex C-49, will be used as the vehicle for the new sterilizing "S-Coating" for food wrappers. This new coating, which is essentially a colloidal dispersion of silver (See MODERN PACKAGING, Sept. '44, p. 113) will be applied by Shellmar Products Co., under the Sterilite name, on a wide variety of packaging materials. According to the manufacturers, Duraplex C-49 was chosen as the vehicle because of its chemical inertness, durability and pigment wetting and binding properties. According to Shellmar, some development work remains to be done before the Sterilite coatings can be marketed.

PRESSURE SENSITIVE PRINTED TAPE

Topflight Tool Co., York, Pa., offers a unique tape printing service—to both large and small users of cellulose tape—and provided standard colors are used, any color combination is possible, as well as series of figures, codes, etc. The printed laminated tape, of course, has many packaging uses.

IMPROVED POLYSTYRENE

The Dow Chemical Co., Midland, Mich., announces that an improved polystyrene, designated as Styron 411, has replaced the present Styron K-27 as of September 1. The result of intensive research, the new material, the makers say, will provide molders with such improvements as easier mold release, improved surfaces, superior welds, better flow control and the elimination of the need for external lubrication. The improvement in mold release and the elimination of external lubrication in turn make for improved surface appearance—added brilliance and gloss, with welds scarcely perceptible. Present availability subject to WPB regulations, though efforts are being made to increase production facilities to meet demands for both military and civilian end users, the company advises.

GUMMED PLASTIC PLATE

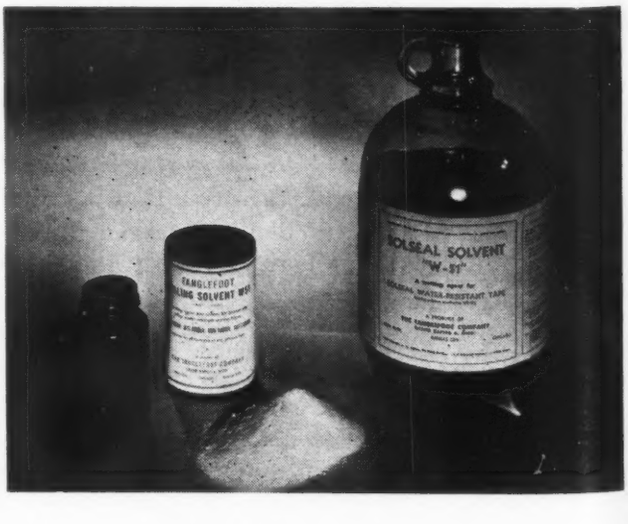
The Pennsylvania Plastic Corp., Pittsburgh, Pa., announces the development of a gummed plastic plate that will adhere and make a permanent bond to any clean surface when moistened with any solvent such as benzine, naphtha, etc. Applied to a clean surface without the use of screws and other usual methods of attaching plates, identification is easily affixed. When the plate is ready to be applied it is re-activated with a common solvent and forms a permanent bond. Adhesion is not affected by weather conditions. Available in unlimited range of permanent colors with fluorescent and phosphorescent letters.

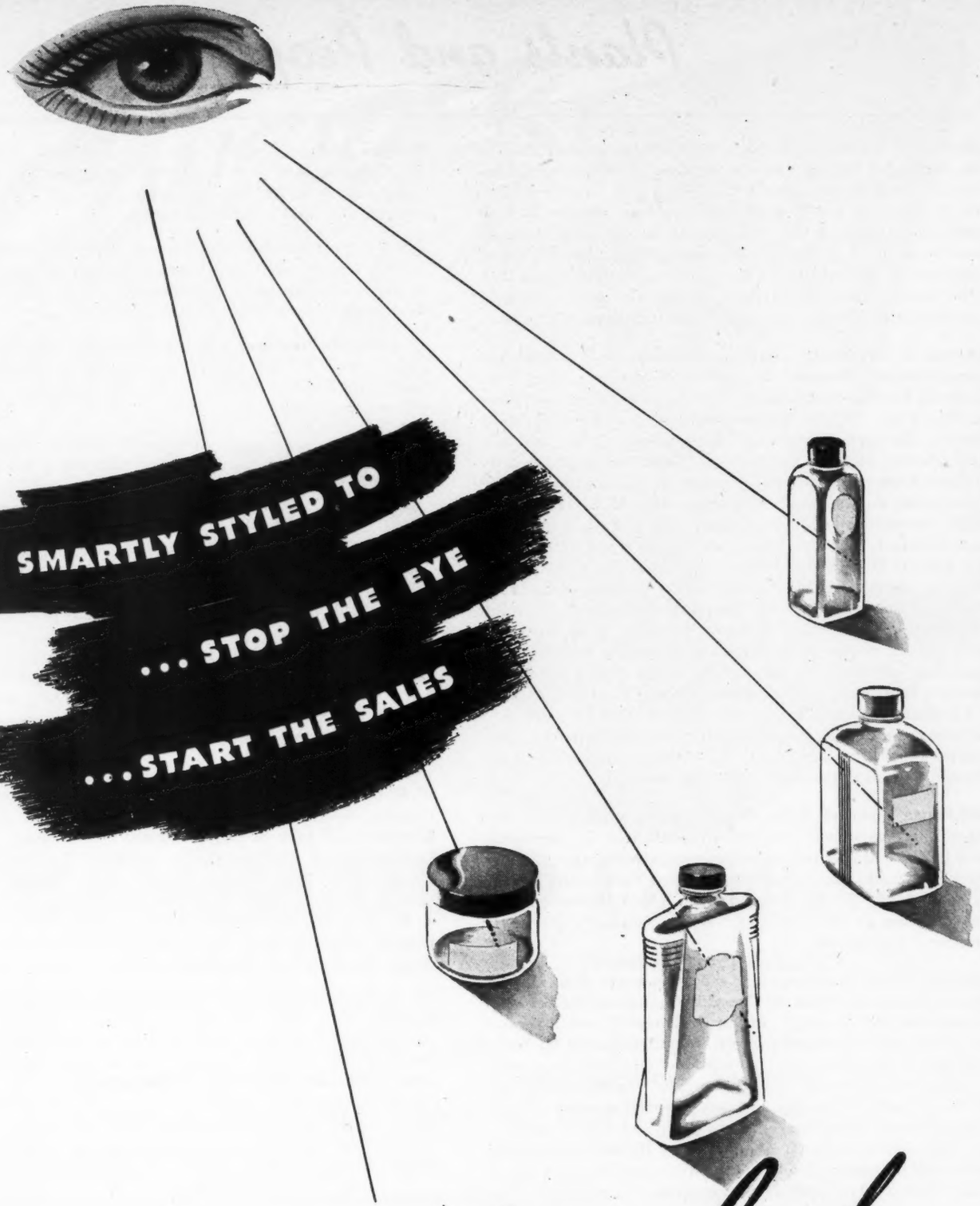
WRAPPING MACHINE ADAPTED TO COOKIES

Package Machinery Co., Springfield, Mass., announces that it has adapted its standard candy-bar wrapping machine to the stacking of cookies or crackers two high, wrapping them, two or three stacks at a time, in glassine, wax paper or cellophane. A simple magazine-feed attachment, added to the standard candy wrapping machine, was developed to meet the heavy demand for cookies and crackers in snack-size packages.

WATERPROOF SEALING SOLVENT IN "DRY" FORM

The new "dry" form of W-51 Solseal Solvent is now available to all packers and shippers, according to an announcement by The Tanglefoot Co., Grand Rapids, Mich. A 1-lb. package of dry ingredients and a 5-oz. bottle of concentrated liquid, when added to a gallon of tap water dissolves instantly to make full strength W-51 Solseal Solvent for use in any standard tape-dispensing and moistening device. The moistener improves the adhesive and water-resistant qualities of ordinary kraft tapes. When used in combination with Solseal Tape, it produces a seal that is fast-setting, moistureproof, non-buckling and capable of withstanding rough handling and extremes of temperature. The dry solvent, which is designed to cut original and shipping costs, is packed in units of four packages to a box and six boxes to a carton and is said to meet Army and Navy overseas specifications.





PACK TO ATTRACT IN *Maryland* GLASS

MARYLAND GLASS CORPORATION, BALTIMORE 30 . . . 270 BROADWAY, NEW YORK 7 . . . BERMAN BROS., INC., 1501 S. LAFLIN ST., CHICAGO 8 . . . J. E. McLAUGHLIN, 401 LOCK ST., CINN. 2 . . . ALLEP TODD, 1224 UNION AVE., KANSAS CITY 7 . . . S. WALTER SCOTT, 608 McCALL BLDG., MEMPHIS 3 . . . H. A. BAUMSTARK, 4030 CHOUTEAU AVE., ST. LOUIS 10 . . . OWENS-ILLINOIS GLASS CO., PACIFIC COAST DIV., 135 STOCKTON ST., SAN FRANCISCO 19.

Plants and People

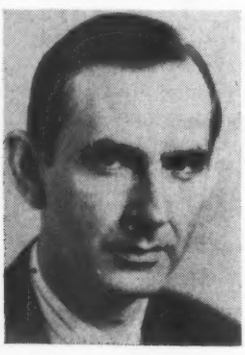
Herbert T. Holbrook has resigned his post as assistant chief of the **Packaging Branch,** Office of the Chief of Ordnance, and has returned to **Bulkley Dunton & Co.,** New York. His successor in the Ordnance post is **R. A. Hickman,** on loan from the **E. I. du Pont de Nemours & Co.** Throughout the war, Mr. Holbrook was a key figure in the military packaging picture; he helped originate many of the Ordnance packaging methods which have now become standard practice. He has also been a frequent contributor to MODERN PACKAGING and PACKAGING CATALOG.

Officials of **Continental Can Co.,** have announced several personnel changes: **Stewart A. Huge,** formerly manager of production planning for the central division, is now administrative assistant in New York. **W. W. Bartholomew** will take over Mr. Huge's duties. **George E. Garland** has been appointed division manager of production planning for the East. **Capt. Paul Smith,** recently released from the Army, has resumed his position as packers' cans district sales manager in Syracuse, while **M. L. Babcock** has been appointed sales office manager there. **V. J. Taranick** is now assistant to the manager of customer research, Pacific division and **H. D. Baker** holds a similar position in the central division. **F. H. Hunsicker** is now chief of customer research for the Los Angeles district with **Lawrence Newsome** in the same position in Seattle replacing **W. C. Watkins. J. H. Bock** has been appointed chief of the product engineering section in the packaging laboratory taking over the duties of **L. J. Frost** who has been transferred to the **Continental Can Co., of Canada, Ltd.**

Continental has been granted priorities by WPB for a $745,000 addition to its **Tampa plant** which will step up production by 20%. The project is to be completed by November 1 in time to meet the demand for cans in the citrus marketing season.

Mid-States Gummed Paper Co., in keeping with postwar developments, announces the following changes in personnel: **Arno L. Zinke** has been appointed general sales manager; **Lyman Clark** is now sales representative for the New York territory working with **George Goodsir,** vice-president; **M. E. Bower** replaces **Robert Bishop** on the West Coast in the company's new headquarters in Los Angeles.

Robinson Ord has been appointed general manager of sales of the organic division of **Monsanto Chemical Co.,** succeeding **Fred. C. Renner** who died recently. **Arthur P. Kroeger** is now assistant general manager of organic division sales and **Charles H. Sommer, Jr.,** assumes responsibility for sales of intermediates as well as plasticizers and resins. In addition, **Dr. Wendell P. Metzner** has been transferred to the company's central research laboratories in Dayton, being succeeded as a group leader in the organic chemicals division research laboratories by **Harold L. Hubbard. Dr. Alfred G. Rossow,** chemist in the Dayton labs, has been transferred to the St. Louis research laboratories.



Dr. C. E. Waring

According to a recent release, **The Davison Chemical Corp.,** Baltimore, Md., has announced the appointment of **Dr. C. E. Waring** as the technical assistant to **Chester F. Hockley,** president.

Until recently, Dr. Waring was supervisor of **Frigidaire's** main chemical, metallurgical and processing engineering laboratories, as well as supervisor and coordinator of their consultory assistance to the U. S. Army Ordnance in the development and research on preservation and packaging.

Morgan Johnson, formerly with In-Tag division of **Interchemical Corp.,** has now joined the **Forbes Lithograph Mfg. Corp.,** connected with technical sales development for printed transparent cellulose and other wrapping materials.

The Goodyear Tire & Rubber Co. will start on the construction of a vinyl plastics plant at Niagara Falls shortly. The group of plastics made from acetylene derived from lime and coke, will be used for the manufacture of transparent packaging film.

Cleaveland Laboratories & Mfg. Co., Inc., has announced the appointment of **National Coated Products Co.,** a new firm just organized by **Dana M. Martin,** as the sole distributor of its products and processes.

G. M. Hobart

George M. Hobart, long-time president of **Somerville Ltd.,** London, Ontario, has severed his relations with that company to join the **Consolidated Paper Corp., Ltd.** in the capacity of executive vice-president.

Associated with the paper industry since 1921, Mr. Hobart was an early pioneer in protective packaging of foodstuffs, his firm being among the foremost in Canada in the production of export packages for foods such as dehydrated eggs, for shell containers, etc., as well as contributing to the civilian wartime replacement packaging program.

W. H. Clifford and **W. R. Kellett** have been elected to replace two resigning directors of the **Kimberly-Clark Corp., James C. Kimberly** and **John S. Sensenbrenner.** Mr. Clifford was additionally elected vice-president in charge of finance. In other elections, **J. F. Hunt** became treasurer while **J. Leslie Sensenbrenner** was elected as an additional assistant secretary-treasurer. **R. W. Lyons,** general manager of the Woodlands division, **C. F. Jenkins,** sales manager, and **R. M. Watt** were made assistant vice-presidents and **M. M. Wright** director of service operations.

The Howard Zink Corp. has purchased three divisions of **Dura-Products Mfg. Co.,** advertising specialty manufacturers of Canton, Ohio. Included in the transfer are the **Dura-Products Decalcomania Transfer Division, License Plate Emblem Division** and **Miscellaneous Metal Products Division.** Manufacture and distribution of the products involved will continue under the new ownership as soon as equipment and production facilities can be shifted from Canton to Fremont, according to **Emery Sevitts,** in charge of decal design and production operations.

Rose Grimes is the new paper and package designer and consultant for the **Marvellum Co.,** Holyoke, Mass.

Nelson H. Budd, formerly editor of **"Good Packaging,"** has accepted the appointment as director of the information division of the **National Canners Assn.,** Washington.

Paul C. Jones has been named field technical manager of the **B. F. Goodrich Chemical Co.** The company has also announced a new division for the promotion and sale of thermo-setting resins with **Sam. L. Brous** as sales manager.

Reinhold-Gould, Inc., paper distributing service, announces new offices at **535 Fifth Avenue,** New York 17, New York.

D. O. Merrill has been appointed assistant to the vice-president and director of sales of the **Crown Can Co.,** Philadelphia. **C. C. Colyer** has been promoted to *(Continued on page 174)*

12,000,000 Canadians –

. . . your closest and most friendly market, consider it seriously.

Let us assist you in getting better acquainted in Canada. Our service includes: Contract Packaging, Material Supply, Packaging Consultants.

We should welcome your request for more specific information concerning your product and Canadians.

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For Your Information

"Packaging for Tomorrow" was the title of a speech given recently by **George Welp,** director of sales promotion, advertising and publicity of the **Interchemical Corp.,** before the **Canadian Box Mfgrs. Assn.** He pointed out that a recent survey shows that 47% of the packages in the United States will be redesigned. The first concern of the manufacturer, he continued, should be a package producer or designer who is interested in more than outward ornamentation. "He (the designer) would accept the following requirements for the ideal package": Mr. Welp goes on to say, "sales appeal, display value and utility, product protection, ideal production, simplicity and lowest possible cost. Such a package planner would be in close touch with manufacturers and suppliers as yourselves and, therefore, alert to the possibilities in new materials, production and printing techniques."

Mr. Welp then went on to give the answers to four questions which had been put before members of the **Packaging Council** of the **American Management Assn.,** editors of leading packaging magazines and others in the packaging field. The remainder of his talk was concerned with the answers to these questions which were: (1) What is the most significant influence which our war experience will have on packaging in: (a) corrugated containers; (b) folding paper boxes; (c) new materials; (d) shipping; (e) packaging design. (2) What is the most significant development in packaging for postwar use in our fields? (3) What new materials will have the greatest effect on future packaging? (4) Will new distribution and merchandising method affect packaging? How?

A report on consumer meetings for the war years has just been released by the **Committee on Consumer Relations in Advertising.** One of its objectives is to observe the trend of consumer actions and attitudes. It analyzes some 1,600 meetings with respect to location, speaker affiliation and subject or purpose of the meeting. The consumer meetings were concerned with such subjects as buying information, price protection, consumers' cooperatives, consumer protection legislation, grading and labeling, labor conditions in manufacture, consumer income and purchasing power, consumer credit and advertising and the consumer.

As a tribute to the outstanding job which the packaging industry contributed to the successful prosecution and victorious conclusion of the war, the **Packaging Institute** is compiling and writing a series of booklets which, when completed, will constitute an authentic **"History of Packaging during World War II."** The first report which covers **"Plastic Packages and Materials,"** has just been published with the aid of the **Plastic Materials Mfgrs. Assn.** Fifteen major plastic materials manufacturers lent both technical aid and interesting illustrations to make the report complete even to a chapter on the forecast for postwar years.

MODERN PACKAGING and affiliated publications announce the establishment of a **Midwestern Editorial Office,** at 221 N. LaSalle St., Chicago 1, Ill., with **Val Wright** in charge as **Midwestern Editor.** Previously Managing Editor of *The National Provisioner*, weekly meat packing magazine published in Chicago, Mr. Wright has had wide experience in the industrial magazine field and is well informed on packaging techniques. He has been a frequent contributor to MODERN PACKAGING.

A native of St. Joseph Mo., Mr. Wright is a graduate of the School of Journalism of the University of Missouri and a member of Kappa Tau Alpha, honorary journalistic fraternity. Before joining *The National Provisioner* he edited the *Shoppers' Guide* in Kansas City. Recently he has specialized in articles on the packaging and merchandising of meat and other food products.

Volume 18 Index of MODERN PACKAGING, September 1944 to September 1945, is off press. To save paper this has not been included with the September issue, but copies are available to any subscriber free on written request to the editorial department.

The public relations committee of the **National Paper Box Mfgrs. Assn.** is distributing to its members a 15 page reprint in a special cover of the section in the **1945 Packaging Catalog** on set-up paper boxes. This reprint presents definitions and terms in common use in the industry; describes basic constructions; and, gives numerous examples of both industrial and decorative use plus describing in detail special types of set-up boxes. The material in this set-up box section was prepared by the editors of the catalog in conjunction with a committee from the industry selected by **Walter P. Miller, Walter P. Miller Co., Inc.,** then president of the association.

Do retail grocers favor any particular type of package? The **Can Mfgrs. Institute** declares they prefer the metal package and supports its claim by a coast-to-coast survey made recently. Among the details disclosed are: For some displays the survey found that nine out of ten grocers prefer cans. Four reasons were given for this preference. 1. Lack of breakage. 2. Attractive appearance. 3. Speed in stacking. 4. Better protection of foods. Specific preferences were: for window display—71.6% of grocers; for shelf displays—75.2%; for counter displays—78.1%; for floor displays—89.1%; for jumble displays—90.6%.

Just off the presses is the retail store edition of **"Merchandise Presentation,"** for the fall and Christmas season published by **W. L. Stensgaard and Associates, Inc.,** Chicago.

A new 12-page booklet published by **W. W. Spencer,** New York, has as its objective to refresh the reader's mind as to what twine-tying machines can do. Generously illustrated, it has a brief description under each drawing suggesting use for each tying machine discussed. It may be had without charge by writing the company at 401 Broadway, N. Y. 13, but the printing is limited.

The **American Standards Assn.** has opened the columns of its magazine, **Industrial Standardization,** for a discussion of the subject of grade labeling by **Happer Payne,** director of labeling of the **National Canners Assn.** Advocate of voluntary adoption of standards, the association is interested in full and free discussion of this subject which has had many interpretations.

At the request of the **Anglo-American Packaging Committee** of the **Ministry of Production,** the **British Standards Institute** has now prepared and published a tropical packaging supplement to the **British Standard Packaging Code, B.S. 1133.** It is called **Supplement No. 2 to B.S. 1133,** with an explanatory sub-title **"Recommendations for Preservation and Packaging for Tropical Theatres of War."** (See MODERN PACKAGING, "Tropic Proofing," January 1945, p. 84.) Copies may be had from the British Standards Institution, 28 Victoria (*Continued on page 176*)

. a job for a veteran

SYNTRON coatings have been to the front . . . in the landing barges at Okinawa . . . in the foxholes at Cassino . . . in the mountain retreats near Prague . . . doing the many jobs assigned to them by the Supreme Command. And now, SYNTRON coatings are back from the war . . . hearty, healthy veterans, ready to apply their skills learned on the battlefields to civilian life.

Special SYNTRON coatings are now available for immediate use on your products . . . for application to porous and non-porous surfaces such as paper, wood, plastic, metal . . . to impart qualities such as moisture and vapor protection, grease and oil resistance, heat sealing, etc.

Send us the story of your coating problems. We have a special research laboratory engaged exclusively in the development of new coatings to meet your requirements. Write for full information.

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U. S. patent digest

This digest includes each month the more important patents which are of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at ten cents each in currency, money order or certified check; postage stamps are not accepted.

Packaging Rosin, C. C. Gilican (to one-half Nelio Resin Processing Corp., Cleveland, Ohio, and one-half to Filtered Rosin Products, Inc., Benedict, Ga.). U. S. 2,378,920, June 26. The method of packaging rosin comprising introducing hot liquid rosin into a cellulose base container, correlating the temperature at which the rosin is poured into the container with the absorption characteristics of the container material.

Silicate Cement, Particularly Useful as a Coating, C. L. Jewett (to Minneapolis Mining & Mfg. Co., St. Paul, Minn.). U. S. 2,378,927, June 26. As a new article of manufacture a dense lithic base granule coated by producing thereon the infused, solid phase heat-reaction product of an aqueous solution of sodium silicate of concentration approximately 30 to 38% and an admixed solid fluoride, said fluoride being a tenary compound of fluorine, alkali metal and a polyvalent metal.

Package for Furniture, J. S. Kirby (to The Hinde & Dauch Paper Co., Sandusky, Ohio). U. S. 2,378,932, June 26. A furniture package comprising a substantially rigid article of furniture, a carton having side walls and a lapped top overfitting the top of said article of furniture, inside laps hinged to the top edges of opposed side walls, each having panels on their free ends.

Container, A. F. Stagmeier (to General Foods Corp., New York, N. Y.). U. S. 2,379,043, June 26. A container of cardboard of like fibrous material adapted for vacuum packing comprising a cylindrical wall and end closures therefor, at least one of said end closures having a cylindrical portion extending within the end of said wall and a bulged end portion adapted to yield under pressure.

Case for Measuring Instruments, R. I. N. Weingart, Glen Head, N. Y. U. S. 2,379,053, June 26. A casing comprising a tapered, annular seat adjacent to the forward end of the casing, a face of substantially transparent material received on such seat, an inturned, annular flange at the forward end of the casing and a split retaining ring positioned between the face and the inturned flange, yieldingly urging the face into engagement with its tapered seat, the taper affording centering means for the face while yielding supported on such seat.

Carrying Case, J. A. Obermaier, Chicago, Ill. U. S. 2,379,031, June 26. A carrying case for an instrument having an indicator provided with a coil, a pointer and a terminal connector comprising insulating blocks and terminals connected to the coil of the indicator, said carrying case having a bracket secured therein and a metallic post secured to said bracket and engageable between the insulating blocks of the terminal connector of the indicator and adapted to be clamped therebetween and in contact with the terminals on said blocks, whereby mechanically to support the indicator and to short circuit the coil of the indicator the purpose of which is to dampen vibration of the pointer.

Tape Cutting Machine, C. Olsson (to U. S. Bedding Co., St. Paul, Minn.). U. S. 2,379,033, June 26. A machine for tape cutting including a wheel having a circumferential face flat in cross-section and adapted to be rotated continuously, a means on said face for engaging the tape, guide means for leading the tape onto the face of the wheel into the path of said engaging means and including means for frictionally resisting the passage of the tape between said guide means and said tape engaging machine, tape shearing means mounted upon the wheel immediately in advance of said tape engaging means.

Gelatinous Material, E. F. Christopher (to Industrial Patents Corp., Chicago, Ill.). U. S. 2,379,065, June 26. The method of increasing the viscosity of glue and gelatin which comprises the adding thereto of deacetylated chitin in sufficient amount to cause a substantial increase in viscosity.

Bag Handle Attaching Machine, M. Katz, Bronx, N. Y. U. S. 2,379,087, June 26. In a machine for forming and attaching handles to predetermined supports, a strand feeding, gripping, shearing and holding mechanism, comprising a feed roller for intermittently feeding a predetermined length of a strand into the machine, a curved surface disc disposed at one side of the strand fed into the machine, a gripper at the other side of the strand, means moving the gripper into the direction of said disc to support a central portion.

Lipstick Holder, A. G. Rosa, Lyndhurst, N. J. U. S. 2,379,105, June 26. A cylindrical tube adapted to receive a lipstick therein, said tube having an open bottom and being formed with slits in its top, a slidable carriage within said tube and supporting the lipstick proper.

Box Creasing and Folding Machine, A. W. Werner, Milwaukee, Wis. U. S. 2,379,127, June 26. In a box making machine, means for conveying box blanks through the machine, an endless folding chain having a portion movable upwardly on an incline from a position below the plane of the blank being conveyed to a position thereabove, said endless folding chain having links shaped and positioned to cause folding of a portion of the blank.

Paper-Cutting Machine, F. D. McLaughlin (to The Chandler & Price Co., Cleveland, Ohio). U. S. 2,379,171, June 26. In a paper cutting machine the combination of a table, a knife reciprocable toward and from said table, angularly disposed parallel links supporting said knife, a cylinder and piston adapted to reciprocate said knife, said piston being mounted in fixed relation to said table at an angle opposite to the angle of said links.

Corrosion Resistant Coating Compositions, I. E. Muskat (to Pittsburgh Plate Glass Co., Pittsburgh, Pa.). U. S. 2,379,246, June 26. An article of manufacture comprising a metallic container, the interior surface of which is coated with a composition comprising an alkali-insoluble cellulose ether and an ester containing two unsaturated groups which the unsaturation is in an aliphatic straight carbon chain and is attached to the second carbon atom from a carbonyl group.

Method of Manufacturing Tubular Material, J. H. Smith (to William L. Marshall Limited, New York, N. Y.). U. S. 2,379,258, June 26. The method of making tubular material which comprises the forming of a continuous web of wood veneer from a plurality of strips of wood veneer joined to others in edge to edge relation and convolutely winding said web of wood veneer on a mandrel, the step of feeding a preformed dry web of bonding sheet material under tension to the mandrel with said continuous web of wood veneer.

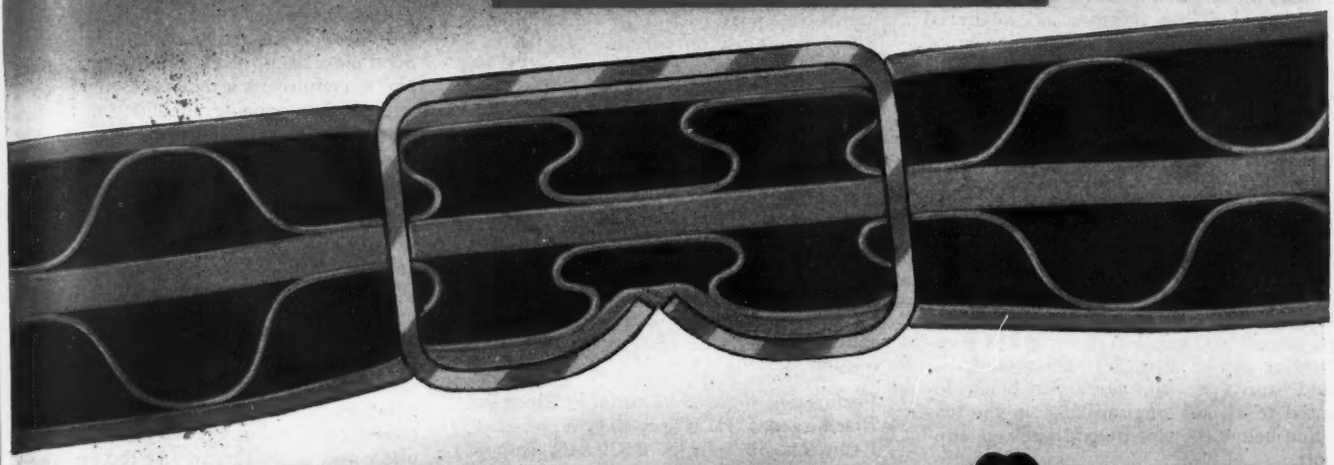
Method for Compacting and Packaging Milk Powder and Compacted Mass of Milk Powder and the Like, H. L. Griffin (to Nestle's Milk Products, Inc., New York, N. Y.). U. S. 2,379,230, June 26. A method of compacting a mass of milk powder, which consists in confining a charge of loose milk powder in predetermined shape in a flexible wrapper which encloses said charge save at a top free face of said charge, said charge being intermixed with air, holding said charge against upward movement relative to said wrapper by means of a plunger which contacts said free face, moving said mass of loose milk powder, and said wrapper and said plunger in substantial unison in successive upward and downward movements.

Dispenser, S. C. Waite (to Ralph B. Waite, Springville, N. Y.). U. S. 2,379,327, June 26. A material dispensing device including a material container having a discharge opening in the form of a throat, a dispensing closure for said throat in the form of a plunger having a hollow body portion thereof slidably fitted within said throat and an adjoining tapering portion leading into an enlarged closed outer end portion.

Method of Sealing Filled Tubes, F. J. Cozzoli, Plainfield, N. J. U. S. 2,379,342, June 26. A method of closing the open end of a cylindrical glass tube partly filled with a pharmaceutical preparation to form a seal close to the preparation therein by means of heating the body of tube at region to be closed and when soft drawing out glass to capillary proportions.

Sealing Machine, J. M. Humphrey, New Richmond, Wis. (to Doughboy Machines, Inc., New Richmond, Wis., 90%). U. S. 2,379,357, June 26. A portable sealing device, comprising cooperating sealing elements, means supporting one of said

Save money by STITCHING the MORRISON Way



YOU can save money—and time—in closing your corrugated and solid fibre containers by using Morrison wire stitching machines. These rugged, speedy, heavy-duty stitchers give you neat appearing, strong, pilfer-proof cartons, even when operated by inexperienced help. The machines do all the work . . . cutting, forming, driving and clinching the wire in one instantaneous operation. A cost analysis for closing your cartons will be sent you, without obligation, if you will merely fill in and mail the coupon below.

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STITCHING MACHINES

SEYBOLD DIVISION

HARRIS-SEYBOLD-POTTER COMPANY, DAYTON F7, OHIO

Note: We also manufacture a complete line of book, steel, metal and aircraft stitchers. Sales and Service Representatives in all principal cities in the United States and Canada.

HARRIS-SEYBOLD-POTTER COMPANY, Dept. P-105
819 Washington Street, Dayton, F-7, Ohio.

We use Tape_____ Glue_____ Tape and Glue_____ Staples_____

Average carton size used_____ One_____ or three_____ strips per end

Number of staples per carton_____ Approximate number of cartons per year_____

Company .....

City and State .....

Attention Mr. .....

sealing elements in fixed relation and the other of said sealing elements movably.

Sealing Machine and the Like, L. E. LaBombard (to The International Paper Box Machine Co., Nashua, N. H.). U. S. 2,379,361, June 26. A machine for heat-seaming together the wall of receptacle blanks of, or having contiguous edge portions, embodying thermoplastic material which comprises a guideway for the blanks, means for moving the blanks along the guideway, feeding means and means for adjusting the same selectively to deliver to said guideway in the same period of time a long blank, or a predetermined number of aligned shorter blanks to form a group.

Packaging Machine, E. D. Angell (to Overland Candy Corp., Chicago, Ill.). U. S. 2,379,407, July 3. A machine for packaging comprising a suitable supporting frame, a conveyor and a support for packages, said support having a slot extending in the direction of movement of said conveyor, said conveyor being located to extend longitudinally of the machine below the slot in said package support.

Nursing Bottle, J. H. Boxley, Richmond, Va. U. S. 2,379,562, July 3. A nursing bottle having a boss formed on and extending from the outside of its lower portion and with a large vent-hole through the wall of the bottle and through the length of the boss for the passage of air into the bottle and for cleansing and sterilizing operations.

Machine for Wrapping Plastic Materials, A. Russel, M. Parker & R. A. Harris (to The Forgrove Machinery Co., Ltd., Leeds, England). U. S. 2,379,655, July 3. A machine for shaping and wrapping plastic materials, having an extrusion device for forming the plastic material into shaped blocks and a wrapping wheel for wrapping the block so formed.

Package, G. H. Ryberg (to Ryco Laboratories, Inc., New York, N. Y.). U. S. 2,379,657, July 3. A package comprising a hermetically sealed, impervious envelope containing a wet medical pad saturated with liquid medicament and adhesive backing secured to back of the envelope and extending beyond the envelope and protective and removable fabric coating for such extended portions of the adhesive backing, the pad being maintained in a wet state by the impervious envelope prior to use.

Folding Box, N. Stone (to Syndicate Products Co., New York, N. Y.). U. S. 2,379,665, July 3. A blank for folding into a lunch box and the like, comprising two main panels joined by an intermediate panel destined to be the bottom of said box, a side flap extending laterally from each of said main panels, said side flaps having tabs adapted to be bent at right angles thereto and to be disposed against and secured to said intermediate panel.

Box, R. V. Burdick, Loudonville, N. Y. U. S. 2,379,679, July 3. A metal box comprising a round container portion open at one end forming the top thereof and provided about said end with a stiffening curl, an outwardly expanded peripheral portion adjacent and extending around said open end.

Box, R. V. Burdick (to R. V. Burdick, Jr., Loudonville, N. Y., one-half interest). U. S. 2,379,680, July 3. A substantially cylindrical metal box comprising a container element and a cover element therefor provided with circumferentially spaced struck-in portions forming trunnions adapted to rest on the top edge of said container.

Folding Box, D. Levkoff, Brooklyn, N. Y. U. S. 2,379,726, July 3. A folding box formed from a single blank of foldable material having four connected side walls, a folding end wall structure integral with the four side walls comprising a folding end panel integral with and connected along a hinge score to one of said side walls, said folding end panel being scored parallel to the hinge score to divide the said end panel same into inner and outer folding sections.

Perforation of Sheet Material by Electrical Discharges, I. H. Wilsey & J. W. Meaker, Evanston, Ill. U. S. 2,379,846, July 3. A bag comprising an envelope formed with a plurality of minute, electric arc pierced perforations, in the fabric of which envelope is dispersed a finely divided substance having a lower electrical resistance than the material constituting said fabric.

Powder Box, J. P. Smith (to Wrigley Pharmaceutical Co., Inc., New York, N. Y.). U. S. 2,379,853, July 3. In a sifter powder box the combination of an outer tubular member having an abutment portion adjacent the bottom edge of the inner surface of the wall, a box unit adapted to hold powder therein and comprising an inner side wall, and outer side wall, a bottom wall and a completely removable closure.

Stamp Hinge Folding, Cutting and Packaging Assembly, C. W. Barnard, Detroit, Mich. U. S. 2,379,859, July 10. A machine for successively folding, creasing and cutting a predetermined number of stamp hinges from a roll of gummed stock.

Packaging Method, O. E. Seiferth & E. C. Sloan (to Oscar Mayer & Co., Inc., Chicago, Ill.). U. S. 2,379,935, July 10. The method of securing articles such as sausages and the like in a unitary package including a supporting strip with abutting articles tangentially secured thereto, which includes feeding a strip toward a securing zone, securing a second strip thereto and moving the two strips forwardly in unison, inserting an article to be secured, between the two strips, adjacent the area at which the strips are already joined, moving the unjoined parts of the strip and the article over a convex support, sealing the strips together about the article while the strips and article overlie said convex support, moving the joined portions of said strips, with the article secured between, across said convex support and thereby providing space between the article just secured and the article next to be secured.

Banding Machine, E. C. Sloan (to Oscar Mayer & Co., Inc., Chicago, Ill.). U. S. 2,379,937, July 10. In combination in a banding machine for securing together a plurality of elongated articles, means for supplying along separate and converging paths, two elongated bands of flexible web material, means for feeding progressively a plurality of said articles to a point between said bands.

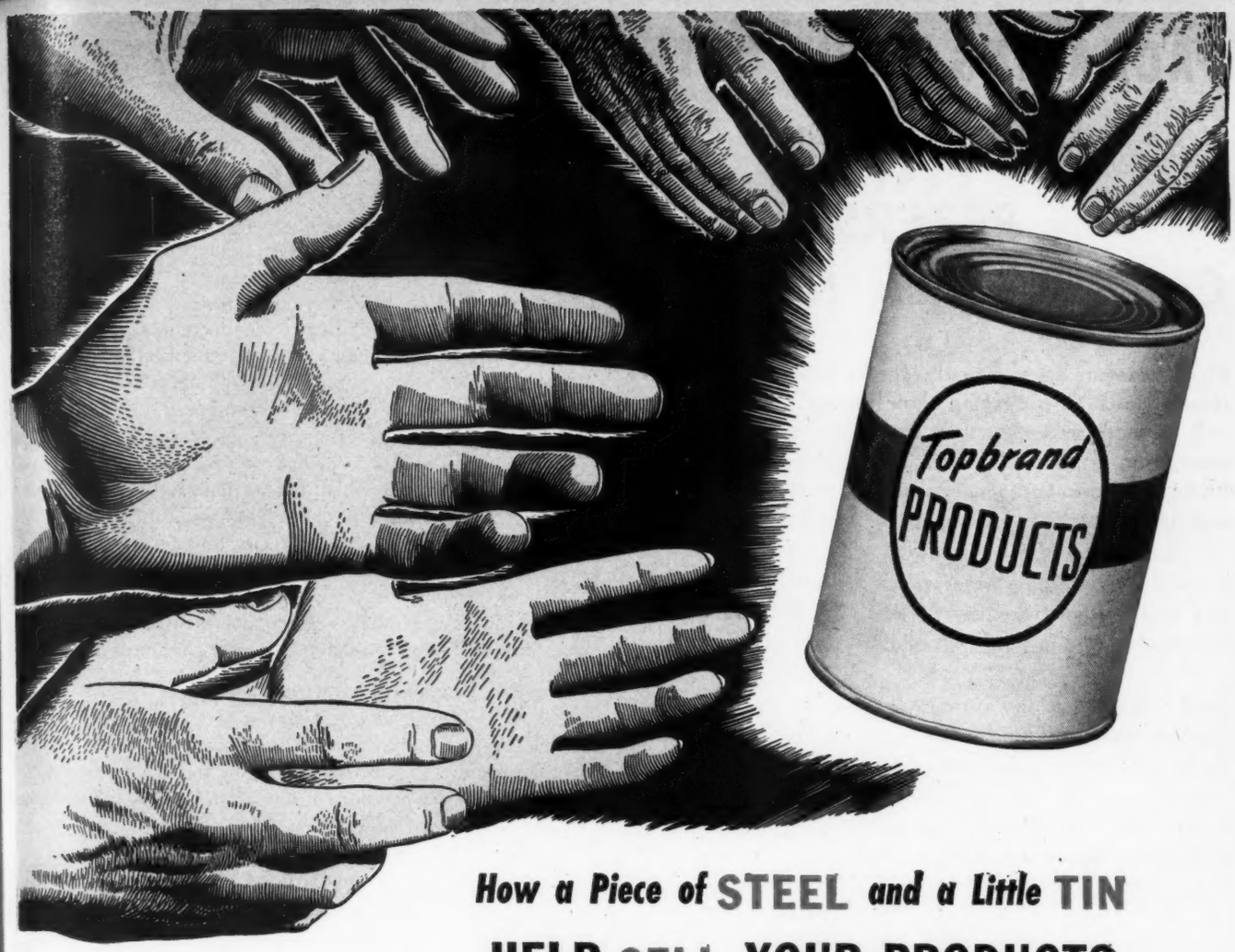
Hood Closure Cap, C. W. Goodwin & H. W. Martin (to American Seal-Kap Corp., Delaware, Del.). U. S. 2,379,959, July 10. As an article of manufacture, a hood closure cap preformed from a paper blank, comprising a depressed diaphragm, an annular pouring lip housing and a depending skirt, said skirt being folded along predetermined crease lines to form substantially triangular overlapping pleats.

Adhesive Sheet Material, E. S. Hole, London E.C. 4, England. U. S. 2,379,964, July 10. An adhesive sheet material comprising a layer of fibrous material coated on both sides with a normally dry, flexible, non-tacky, heat-activatable adhesive comprising a major portion of gutta percha and a minor proportion of a mixture of an adhesive agent selected from the group consisting of rosin, natural gum and wood pitch and a plasticizer selected from the group consisting of petroleum jelly and an insoluble metallic soap.

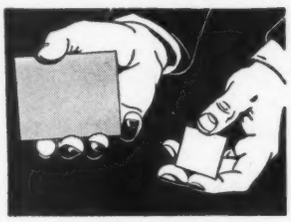
Jewelry Box, P. B. Koller, Jr. (to Buffalo Jewelry Case Co., Inc., Buffalo, N. Y.). U. S. 2,380,052, July 10. A liner for a box compartment of substantially rectangular shape, comprising a stiffener having an intermediate body section shaped to fit the box compartment and having end flaps along two opposite sides folded beneath the intermediate section.

Gum Package, W. B. Ranney (to Wm. Wrigley, Jr., Co., Chicago, Ill.). U. S. 2,380,368, July 10. A package comprising a plurality of sticks of gum or the like each completely enveloped in a printed inner wrapper, said inner wrapper being folded to form end flaps lying flat against said sticks, a sleeve disposed around each said wrapper, to enclose one end flap, but terminating short of the other end flap to leave the same uncovered, means securing said sleeves together to form a bellows-like structure thereof and an outer wrapper disposed around such plurality of sticks, said outer wrapper provided with means for removing one end thereof at a point substantially coinciding with the point of termination of said sleeves.

Temperature Indicator, R. P. Schreiber & W. McC. Lee (to the Government of the United States of America). U. S. 2,379,459, July 3. A temperature indicator comprising a sheet of absorbent material having a dry dye printed on one face and a sheet having printed thereon a solid solvent for said dye liquefiable at the temperature to which the indicator is designed to respond and means to secure the two sheets together with printed faces in contact. This is a food spoilage detector and can reveal whether a package of food has been subjected to excessive temperatures. The envelope containing this temperature indicator is enclosed in food packages. If the sheets are white when package is opened for use, it cannot have spoiled. If they are stained, the food is sure to have deteriorated.



How a Piece of STEEL and a Little TIN HELP SELL YOUR PRODUCTS



It's more than 98% steel, less than 2% tin

How Steel-and-Tin Cans Help Your Products

1. Cans don't break, crack, split or tear.
2. Cans are economical to pack, ship and store.
3. Protect products against air, light and moisture.
4. Cans display attractively.
5. Labels can be lithographed permanently on cans.

• Yes . . . steel-and-tin cans are sales tools as well as trouble-free containers.

You see, labels can be permanently lithographed right on the cans . . . with colorful, eye-catching designs which interest consumers. And cans help to build point-of-sale displays . . . tempting for retailers to feature . . . inviting for consumers to see. That's one reason why retailers find it so easy and profitable to sell products packed in cans.

That's not all! Packed in steel-and-tin containers . . . which are more than 98% steel, less than 2% tin . . . consumer products please customers because cans are shatterproof, stay neat and clean, preserve the quality of merchandise. So, if you want containers that really help to sell, pack consumer products in trouble-free cans when Victory permits their use again.

WORDS TO THE WISE . . . ABOUT CANS

A nationwide advertising campaign . . . using full-page, full-color ads . . . is familiarizing shoppers all over America with the many practical advantages of *cans.* Six national magazines and the magazine sections of Sunday newspapers from the Atlantic to the Pacific carry more than 29,000,000 printed messages this month.

CAN MANUFACTURERS INSTITUTE, INC., NEW YORK

NO OTHER CONTAINER PROTECTS LIKE THE CAN

PACKAGING DEP'T NOTE:

Have You Looked Into

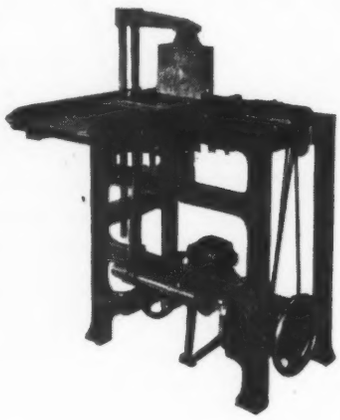
PETERS
Carton Packaging Machines?

Plant managers are constantly on the lookout for ways to reduce costs of packaging their products. Such savings will be more important than ever when full scale civilian production is resumed. One very simple way is to substitute economical automatic or semi-automatic carton set-up and closing machines for expensive hand work.

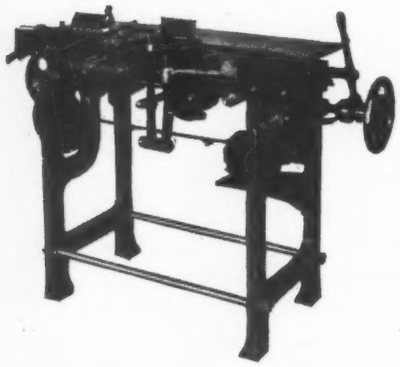
If you are now doing these operations by hand it will pay you to investigate the use of PETERS carton set-up and closing machines in your packaging department.

Send a sample of the various size cartons you are using together with your production requirements. PETERS will gladly make recommendations for your specific needs.

Prompt action is recommended as deliveries will be made in the same sequence orders are received.



This PETERS JUNIOR CARTON FORMING AND LINING MACHINE sets up 35-40 cartons per minute, requiring only one operator. After the cartons are set up, they drop onto a conveyor where they are carried to be filled. If you desire to handle several sizes of cartons, machine can be made adjustable.



This PETERS JUNIOR CARTON FOLDING AND CLOSING MACHINE closes 35–40 cartons per minute, requiring no operator. After cartons are filled, they enter machine on conveyor and are automatically closed. Can also be made adjustable to handle several different size cartons.

PETERS MACHINERY COMPANY
GENERAL OFFICE AND FACTORY
4700 RAVENSWOOD AVENUE, CHICAGO, ILL.

Postwar export . . .

(Continued from page 134) —erous metal products that do not require nor readily lend themselves to decorative packing. Generally speaking, however, the sound trend toward utilizing all containers for a sales message, frequently overlooked in the past, should be carefully considered in connection with packing any product whatever. Colorful, attractive containers that advertise their contents and the name of the product's manufacturer throughout the process of distribution and advantageously display the merchandise at point of sale are proved instruments of sales promotion.

Postwar commercial export packing therefore, will see a large increase in these "double use" shipping containers. For small and medium-sized items, fibreboard cartons will be particularly suitable. They are compact, light in weight and facilitate economies in transportation and storage costs. Moreover—and these are especially important features—they lend themselves well to both printing and conversion to shelf displays.

The conclusions, then, that can be drawn from the foregoing outline and establish starting points for specific planning of commercial export packaging of metal products are these:

1. The volume will be large.
2. War-time developments in protective packaging will live on as important features.
3. Certain modifications, simplifying current military practices in methods rather than in principle, will be possible.
4. Economy will be an increasingly important factor.
5. In addition to adequate protection, most postwar packs must offer merchandising and display values.

The drawings (Figs. 1 and 3) showing a compass packed for military overseas and for postwar commercial export shipments serve to demonstrate these points. The military pack features an inner box which is enclosed in a waterproof case liner and in turn floated in excelsior within an outer case. The latter has handles at the bottom and the dog house effect on top to prevent tilting and is further secured by metal strapping.

The proposed postwar commercial pack of the same compass still retains the important characteristics of the interior moisture-vaporproof construction of the military pack. The primary case, however, is at the same time the shipping container with the addition of prominent product identification displayed on same. Thus, while there is no reduction in the water-vapor protection, the decrease in mechanical protection attained by eliminating the secondary case and the excelsior cushioning permits considerable saving of materials, labor, time, storage and shipping space.

At the same time, another important purpose has been served: display value has been added. By the simple procedure of removing the top part of the box from the base, the protective pack is transformed into a display pack, though still retaining the moisture-vapor, dust and mildew-proof features.

The photograph (Fig. 2) showing a gauge within a transparent moisture-vapor barrier will serve to illustrate this point. While, in the case of a compass, the display factor may be somewhat irrelevant, there are thousands of items which saleswise will materially profit by this type of dramatization. Particularly items that lend themselves to shelf display present an ideal application for packaging that fills a dual purpose—protection plus sales appeal.

"Ah . . . Pickles!"

Confirmed ice box raiders are doubly grateful when they can have a choice of Stokely's Finest Pickles to add to that bed time snack . . . and who would want to even try to resist the temptation of their crisp, tangy flavor. ◆ Like so many other manufacturers of quality products, Stokely-Van Camp, Inc., has selected Crown Screw Caps as a secure, dependable seal for its products. Crown Screw Caps are the only caps with the patented Deep Hook Thread which gives double sealing pressure with the same amount of application force. Crown Cork & Seal Co., Baltimore 3, Md. *World's Largest Makers of Metal Closures.*

CROWN CLOSURES

AD INTERIM
Availability

• The Watson-Standard laboratories are ready to assist in supplying you with a protective coating formulated from available materials for your specific coating requirements.

A number of critical chemicals needed by our armed forces to continue the prosecution of the war will of necessity not be available for the production of top quality protective coatings, in the present and immediate post war period.

Your requests for detailed information will be given our immediate attention.

Rx PROTECTIVE COATINGS

THE WATSON-STANDARD CO.

Manufacturers of
PAINTS • VARNISHES
INDUSTRIAL FINISHES
AND LITHOGRAPH COATINGS

Factory and General Office:
PITTSBURGH, PA.
WAREHOUSES:
Boston • Buffalo
Detroit • New York

Dehydrated foods . . .

(*Continued from page 141*) ness of the covering on individual packages being between 0.25 and 0.35 mm.

Practical application

The method recommended for covering packages with a continuous film of plasticized gelatin is as follows:

1. The dehydrated food, either compressed into a block or packed into a suitable carton, is efficiently wrapped in a moistureproof paper which has been banded with plasticized gelatin. The compostion and thickness of the bands of plasticized gelatin should be the same as that of final covering.
2. The packages are dipped into a solution containing 80 g. of gelatin, 80 g. of glycerol and 1.5 g. of Turkey Red oil dissolved in sufficient hot water to bring the volume up to 300 ml. The temperature is maintained at 41 deg. C. The viscosity of the solution at the temperature of the bath must be not less than that of glycerol at 20 deg. C. Two complete coatings (four dips) are given. After each dip the packages are dried in moving air at a temperature of 43–45 deg. C. and a relative humidity of 20% for 20 minutes.
3. The packages are then evacuated and filled with pure nitrogen, the brogue hole being sealed with a spot of a warm aqueous solution of gelatin (25%). They are then overwrapped in a good moistureproof material.

Packages covered with plasticized gelatin in the manner described above and tested by dropping onto a steel block from a height of two feet, so that each corner was deformed, retained their freedom from leaks. The tests were carried out at temperatures of 37, 15 and −10 deg. C. and in air at relative humidities of 20% and 70%.

The effect of varying the proportion of glycerol to gelatin on the tensile strength and extensibility at different temperatures and relative humidities has been studied and will be described in a later paper. The results show that a gelatin covering made according to the procedure outlined above will have an extensibility of at least 100% in air at temperatures from 37 deg. C. to −10 deg. C. and at relative humidities from 20 to 70%.

Apart from its resistance to the penetration of oxygen, a plasticized gelatin film is impermeable to molten fat and to most fat-soluble taints. This is particularly important in the case of dehydrated foods which often contain a large amount of fat.

Acknowledgment

Mr. R. C. Brimley assisted with the experimental work throughout this investigation, and is largely responsible for the design of the gas sampling apparatus used in conjunction with the capillary Eudiometric apparatus of G. Bonnier and L. Mangin.

The work described in this paper was carried out as part of the program of the Food Investigation Board of the Department of Scientific and Industrial Research (Great Britain). It is published by permission of the Department.

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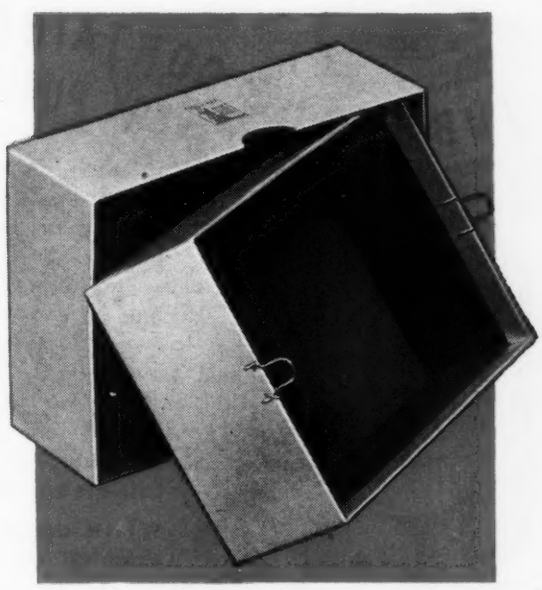
☆ Rx for TIME!

Sturdy, compact, convenient in size, the Mason MailMaster is just what the "Doctor" ordered for a multitude of small products such as watches which require maximum packaging protection in shipments.

Though the demands of war have kept Mason MailMasters on the go for Victory, soon these rugged, light-weight containers will be available again for domestic or overseas shipment of peacetime products.

As part of your postwar planning, you'll want to investigate the advantages — built-in strength, economy and speed of packaging — which have made Mason MailMasters renowned as a shipping container the world over.



The patented Mason "MailMaster". Light and unbelievably strong, with positive wire closure.

The MASON BOX COMPANY

ATTLEBORO FALLS, MASS.—175 5TH. AVE., NEW YORK

It will pay YOU to use
GUMMED LABELS
by the Fent-Onamel PROCESS

Send for Catalog and Samples

FENT-ONAMEL Quality Labels are DISTINCTLY DIFFERENT from the ordinary gummed labels, made in the ordinary way. The materials used and the method of making **FENT-ONAMEL** are as remote from the average as their appearance.

FENT-ONAMEL is PRECISION WORK

The sharp clean cut letters result from perfect, even impressions, varying less than 1/1000 of an inch. By the **FENT-ONAMEL** process our colors are Thermal Applied with Special Built Machinery.

FENT-ONAMEL COST LESS

FENT-ONAMEL cost less than ordinary labels, because the method uses no electrotypes, expensive make ready, salesmen or collection agencies. These are a few of the reasons why 130,000 firms order **FENT-ONAMEL** labels made in over 2,500 shapes and sizes.

Improve the appearance of your package by using FENT-ONAMEL Labels

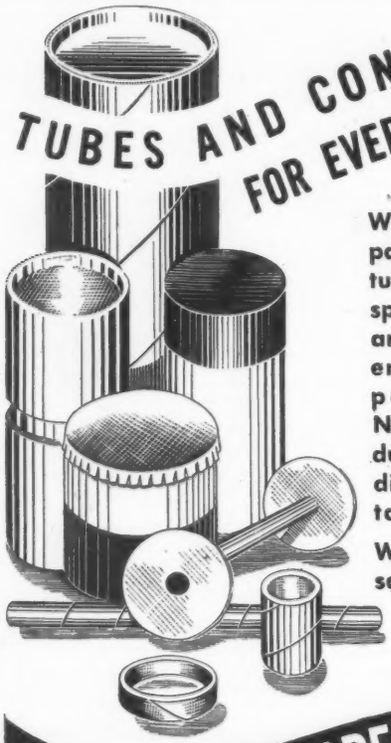
NO ADVERTISING HAS YET BEEN FOUND THAT COSTS SO LITTLE AND PAYS SO WELL

FENTON LABEL COMPANY
506-12 RACE STREET
PHILADELPHIA 6, PENNA.

FENTON LABELS STICK

AND STAY STUCK : : double gummed with the most powerful adhesive known!

TUBES AND CONTAINERS FOR EVERY PURPOSE



We manufacture paper cores, mailing tubes, ribbon blocks, spools, paper boxes and cans with metal ends, curled ends, paper cap ends. Noted for fast production—any length, diameter, wall. Containers developed.

Write or call for samples.

MIDDLESEX PAPER TUBE CO. Inc.

New York Office — 342 Madison Avenue, New York City
Phone MUrray Hill 2-0545
Main Office — Lowell, Mass.
FACTORIES: LOWELL, MASS. · TRENTON, N. J. · AUGUSTA, ME.

Gas packing . . .

(*Continued from page 144*) is the only dependable method in such cases. In these particular studies oxygen contents of 1% or slightly less were obtained in the gas-packed cans—well within the range of commercial equipment.

Vacuum packing is also not readily adaptable to the packing of finely ground or powdered materials at low oxygen contents, especially at high speeds. Powdered cranberries and tomato juice cocktail are examples of such products. This is because the time allowed to obtain the high vacuum in a high-speed vacuum closing machine, wherein the can must be vacuumized and sealed in the same chamber, is so short that these fine powders have a tendency to be drawn from the can, causing seaming and other difficulties. In gas packing, however, the cans are vacuumized and gassed in one chamber and sealed in another, making the available vacuumizing time longer and consequently the rate of vacuumization slower, while maintaining equivalent speeds. Other factors entering into this point are beyond the scope of this article.

Unfortunately, the term gas or vacuum packing has been very broadly interpreted in the past. As an example, many cans of dehydrated foods have been "gas packed," so called, even though they contained as much as 10% oxygen when sealed. It is an accepted fact in the packaging industry that those products which require the absence of oxygen for their fullest preservation rarely receive much benefit from vacuum or gas packing unless the final oxygen content in the container is reduced to 3%, and preferably less than 1%. The fundamental reason for inferior gas-packing operations on dehydrated foods was lack of information about requirements. More recently, the requirements have been better understood and gas-packing operations correspondingly improved.

Two general procedures for gas packing are used—the batch method, utilizing a box or chamber for vacuumizing and gassing a group of cans at a time, and the fully automatic method, using a high-speed rotary machine. There are, however, a number of modifications of each of the above two variations, with some overlapping. Both types of equipment are available from can manufacturers.

Improved models are forthcoming, offered in a variety of speeds and sizes to accommodate various needs.

Gas packing is not an expensive operation. Either of two inert gases is generally used—nitrogen or carbon dioxide—and both are available from gas suppliers in high-pressure cylinders. Carbon dioxide in this form costs only half as much as nitrogen and since, as indicated above, it is satisfactory for dehydrated fruits and vegetables, it is the logical one for use with these products. For larger operations at least one large company manufactured, before the war, a line of gas generators producing a mixture of carbon dioxide and nitrogen at low cost. It is likely that other generators for producing nitrogen will be available soon. These generators are such that they can readily be installed in almost any plant. In general, the cost of gas used is balanced by the smaller vacuum pump capacity required in comparison with the equivalent vacuum packing operation.

There is an increasing demand for well-qualified speakers to carry the story of packaging to technical, business and consumer organizations. The Speakers Bureau of MODERN PACKAGING stands ready to help you in your search for such a speaker.

Use a "Trade mark" paper to cover your set-up boxes or to wrap goods with the name of your store. Such papers have proved themselves as an important merchandising help. They lend individuality to your merchandise, and will help give positive identification to your product and goods.

Many national manufacturers and retail stores use a "Trade Mark" paper supplied by us, and we will gladly send samples upon request.

Would you like to see your trademark worked into a paper? Send it in and a sketch will be made for you without obligation.

CHARLES W. WILLIAMS & CO., Inc.

AUTHORITIES ON BOX COVERING PAPERS

303 LAFAYETTE STREET
NEW YORK 12, N. Y.

444 WEST GRAND AVE.
CHICAGO, 10, ILL.

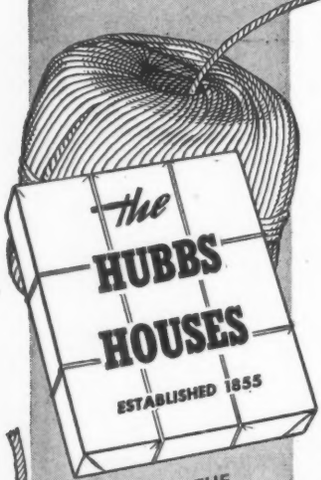
167 OLIVER STREET
BOSTON 10, MASS.

OUCH! THAT REMINDS ME I WAS GOING TO CUT OUR SALES EXPENSE IN EASTERN U. S. BY TURNING OVER OUR SELLING TO

HUBBS HOUSES

Yes, mills and converters are more and more realizing that Hubbs Houses salesmen continually call on the important buyers in America's No. 1 market . . . . from Indiana east. Inquire as to how we can *increase your volume* and *reduce your sales expense.* Contact the Hubbs House nearest you.

FOR A **DISTRIBUTORSHIP** THAT MEANS **LEADERSHIP**



CONTACT THE HUBBS HOUSE NEAREST YOU

CHARLES F. HUBBS & COMPANY
383-389 Lafayette Street
30 Beekman Street
NEW YORK 3, N. Y.

HUBBS & CORNING COMPANY
BALTIMORE 1, MD.

HUBBS & HOWE COMPANY
BUFFALO 7, NEW YORK

HUBBS & HASTINGS PAPER CO.
ROCHESTER 8, NEW YORK

CHARLES F. HUBBS & COMPANY
BRIDGEPORT 7, CONN.

INTERSTATE CORDAGE & PAPER CO.
PITTSBURGH 22, PA.

HUBBS PAPER COMPANY, INC.
HOLLIS 7, NEW YORK

HUBBS & HOWE COMPANY
CLEVELAND 14, OHIO

HOLLAND PAPER COMPANY
BUFFALO 7, NEW YORK

CHARLES F. HUBBS & COMPANY
TROY, NEW YORK

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VICTORIA PAPER & TWINE CO., LTD.
TORONTO

VICTORIA PAPER & TWINE CO., LTD.
MONTREAL

VICTORIA PAPER & TWINE CO., LTD.
HALIFAX

GARDEN CITY PAPER MILLS CO., LTD.
ST. CATHARINES, ONT.

CANADIAN VEGETABLE PARCHMENT CO., LTD.
MERRITTON, ONT.

WAREHOUSES AT ALL THE ABOVE.

Old products in new dress

After a series of studies made over a period of two years, embracing dealers' sales experiences and consumers' buying habits and preferences, Johnson & Johnson learned that men and women in all occupations and all economic groups are now using medicated plasters; that the average plaster user buys three to four a year; and, that most purchasers ask for a "back plaster" or a "plaster for the back."

Using these facts, the name of J & J's leading product has been changed from "Red Cross Plaster" to "Back Plaster," and the old package (left, center) has been redesigned and simplified in clean, bright colors, featuring the new name, which also describes the plaster use. Different background colors distinguish one type of plaster from the other on both the package and the counter display unit which holds a dozen packages. A white box, with blue and red type, and white packers, identifies the back plaster; deep blue with white lettering is used for the chest plaster and brilliant red with white lettering is for the heavy back plasters.

In announcing the advertising campaign which is due to reach its height this fall, the company says that it is remarkable that J & J's oldest product should today offer the brightest opportunities for expansion.

Package for electrolyte . . .

(*Continued from page 129*) cap that required several complete turns to tighten it. In order to prevent leakers, a wax-impregnated spun glass cloth gasket or liner was inserted in the cap. To soften the wax contained in the cloth, the cap must be heated to approximately 125 deg. F. and then screwed tight. A cellulose band or equivalent is used as a second line of defense to prevent the cap from coming loose.

The V3C or V3S fibreboard carton in which the bottle is first packed must have all flaps and seams taped. This not only prevents sifting but in case of a leak or broken bottle traps the acid sufficiently to allow the asbestos to absorb it.

It was found the bottle must contain an outage (void

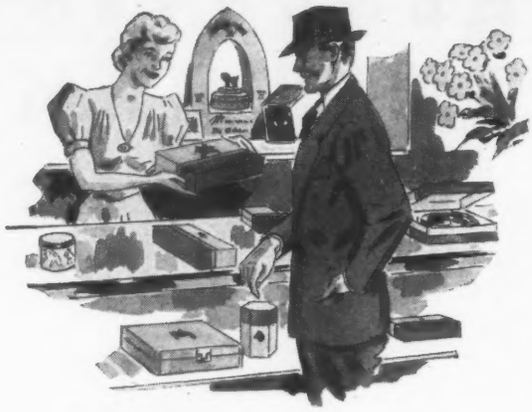
PRESERVING TRADE NAME VALUE . . .

Consistently and persistently, month after month, the name RHEINGOLD is displayed to consumers in the areas served by that excellent product — on poster panels, on transportation lines and at retail outlets. Keeping an established trade name everlastingly alive in the minds of shoppers is smart merchandising that will pay big dividends during the coming postwar period of keen competition. We can help you with YOUR display advertising.

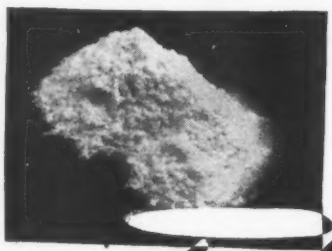
FORBES LITHOGRAPH CO.

P. O. Box 513 Boston 2

NEW YORK CLEVELAND CHICAGO ROCHESTER



YOUR packages will merit preferred counter display position beautified with



Flock

This Rayco material comes in innumerable styles and colors, permanently surfacing paper, cloth, wood, cardboard, glass, plastic metal with

Luxurious Simulations of

SUEDE • VELVET • VELOUR

at practical packaging cost

Let us work with you to give your packaging the out-in-front sparkle that will knock the retailer's eye out when he asks (and he WILL expect it!) "What's new?" Flock surfacing also produces distinctive effects for deluxe catalog and souvenir book covers, and for numerous pocket or personal articles such as notebooks, folders, etc.

Request samples and prices

RAYON PROCESSING CO. of R.I. INC.

110 TREMONT ST., CENTRAL FALLS, RHODE ISLAND

Developers and Manufacturers of Printing and Coating Flock

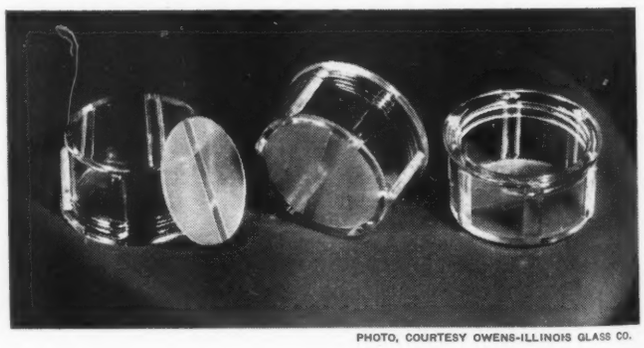
space) equal to 5.6% of capacity. This outage will permit the contents to heat to a temperature of 149 deg. F. or be subjected to 20,000 ft. elevation without exceeding 15 lbs. pressure, which is considered a safe factor to prevent breakage or leakers due to excessive expansion. The asbestos affords a certain amount of insulating value and even though the containers are exposed to tropic sun for a long period the maximum safe temperature will not be exceeded.

The exterior wood container was also revised. A Style 4 container had been specified. It was decided to reverse the end construction, which meant that the end would have a vertical grain with horizontal cleats or cleats parallel to the width. This is customary when the depth of the container exceeds the width by a fair margin. This end construction, while not detracting from the strength of the container, accomplishes the following: (1) saves lumber, (2) provides hand holds for ease in handling and (3) provides adequate space for essential marking.

At this point we had a good design which would, in theory, deliver the goods. Sufficient samples of all components were made available by industry for testing purposes. Through cooperation of the Package Research Laboratory, Rockaway, N. J., numerous tests were made in the 14-ft. revolving drum-testing machine. Many containers were subjected to the agitating test which simulates shocks received in movement by truck over bumpy roads or similar shocks. Tests simulating shock received in freight car movement also were made. All containers were subjected to 70 falls in the revolving drum, which is considered adequate even for wartime shipments overseas.

Despite the severity of the tests no leakers or breakage occurred. As a matter of fact, the cushioning qualities of asbestos surprised many and may result in greater use of this material for shipping dangerous liquids in peacetime.

Polystyrene closures for acids



PHOTO, COURTESY OWENS-ILLINOIS GLASS CO.

This special polystyrene closure has recently been developed for domestic commercial shipments of sulphuric, nitric and hydrochloric acids. Used in conjunction with a $6^1/_2$-gallon glass carboy, it is leakproof and equipped with a vent which permits the release of pressure in excess of 10 lbs. gauge. The closure liner is a disc of polyethylene, especially grooved through the center to provide the necessary vent when internal pressure exceeds the specified maximum. The new closure replaces a gasketed ceramic stopper, which was not leakproof. Following tests directed by the Bureau of Explosives of the Assn. of American Railroads, the new package has been approved by the Interstate Commerce Commission under ICC Specification 1-D.

SYLVANIA Means Cellophane

. . . it gives electrical cable added protection

. . . assures flavor protection

ELECTRIC CABLES are the nervous system of our mighty warships. Helping control their electrical energy is one of Sylvania's important jobs. Inside wires are wrapped with flame-retardant, space-saving Sylvania cellophane, which aids in insulation, separates the component parts of the cable and with its different colors acts as a coding device.

From cable protection to flavor protection is a long jump. Yet the qualities of Sylvania cellophane that made it indispensable to the war effort are equally important in food packaging. This versatile material seals flavor and aroma in . . . keeps candy in tip-top condition from maker to consumer. You can be sure these wartime developments will result in more uses for Sylania cellophane—*better cellophane.*

SYLVANIA CELLOPHANE

Made only by SYLVANIA INDUSTRIAL Corporation

Manufacturers of cellophane and other cellulose products since 1929

General Sales Office: 122 E. 42nd St., New York 17, N.Y. ★ *Plant and Principal Office:* Fredericksburg, Va.

• Registered Trade Mark

Put LUSTEROID on your Mental Buying LIST

Give Your Post-war Packaging these LUSTEROID Advantages

Picture your post-war products in LUSTEROID vials and tubes and you'll see many reasons why these modern plastic containers can pep up your future sales.

LUSTEROID combines product visibility with full protection. For all its light weight, it is strong, rigid, unbreakable. You have all colors of the rainbow to work with in clear or opaque vials and tubes. Your sales message can be printed right on the container so that no labels are necessary. You save additional expense in lower shipping and packing costs.

These crystal-clear containers come in standard diameters from ¼" to 1¼" and lengths up to 6". Cork, slip-on or screw-cap closures.

Write for post-war details

LUSTEROID CONTAINER CO., INC.

Formerly Lusteroid Division of Silcocks-Miller Company

Office and Factory

10 W. PARKER AVENUE, MAPLEWOOD, N. J.

MAILING ADDRESS SOUTH ORANGE, N. J.

Plants and people

(Continued from page 156) New York district sales manager and **A. Norman Webb,** for the past two years chief of the Metal Can Section of WPB is district sales manager for Baltimore.

Fred W. Seybold has been named chief design engineer for the production of paper cutting machinery for the **E. P. Lawson Co.**

Fred L. Willis, Jr., has joined the sales force of the Atlanta branch of **International Printing Ink,** division of **Interchemical Corp.**

Dr. L. B. Arnold, Jr., has joined the staff of **Arthur D. Little, Inc.,** industrial research organization of Cambridge, Mass.

Robert L. Warren, president of **Brockway Glass Co., Inc.,** Brockway, Pa., has announced the purchase of the **Muskogee Glass Co.,** Muskogee, Oklahoma.

William N. Brock, formerly manager of the Toledo plant for the **Chase Bag Co.,** has been promoted to assistant to the general sales manager, **R. N. Connors.** At the same time it was announced that **Henry C. Hancock** will become manager at Toledo.

Louis Piatt who recently resigned as chief of the Glass and Closure Section of WPB, has been appointed manager of the newly formed commercial closure division of **Ball Bros. Co.**

Anthony Garcia has been engaged by the **Interchemical Corp.** for liaison work in **Latin America.** He will leave shortly for Brazil and Argentina to make surveys of market possibilities.

American Coating Mills, Inc., has started construction of a new folding carton plant in **Elkhart, Ind.,** to replace the present building. The new plant, containing about 190,000 sq. ft. and directly connected with the company's paperboard mill, is expected to be ready by April 1946. **Modern Packages, Inc.,** of **Memphis,** a subsidiary of American Coating Mills, is also anticipating the construction of a new plant in Memphis.

States D. Tompkins, for ten years production manager of the foil carton division of **Reynolds Metals Co.,** has been appointed manager of the carton department of the **United Paperboard Co.**

The Plastic Film Corp. has announced the election of two new directors: **Thomas J. Ahern, Jr.,** until recently manager of the New York offices of the Reconstruction Finance Corp. and **Warren D. Brewster,** formerly treasurer of Deering Milliken & Co.

The New York offices of **Francis Chilson,** industrial consultant, were moved recently to **101 Park Ave.**

Joseph T. Henson has renewed his business acquaintance with **The Cleveland Container Co.** He will devote his time exclusively to sales and consultation.

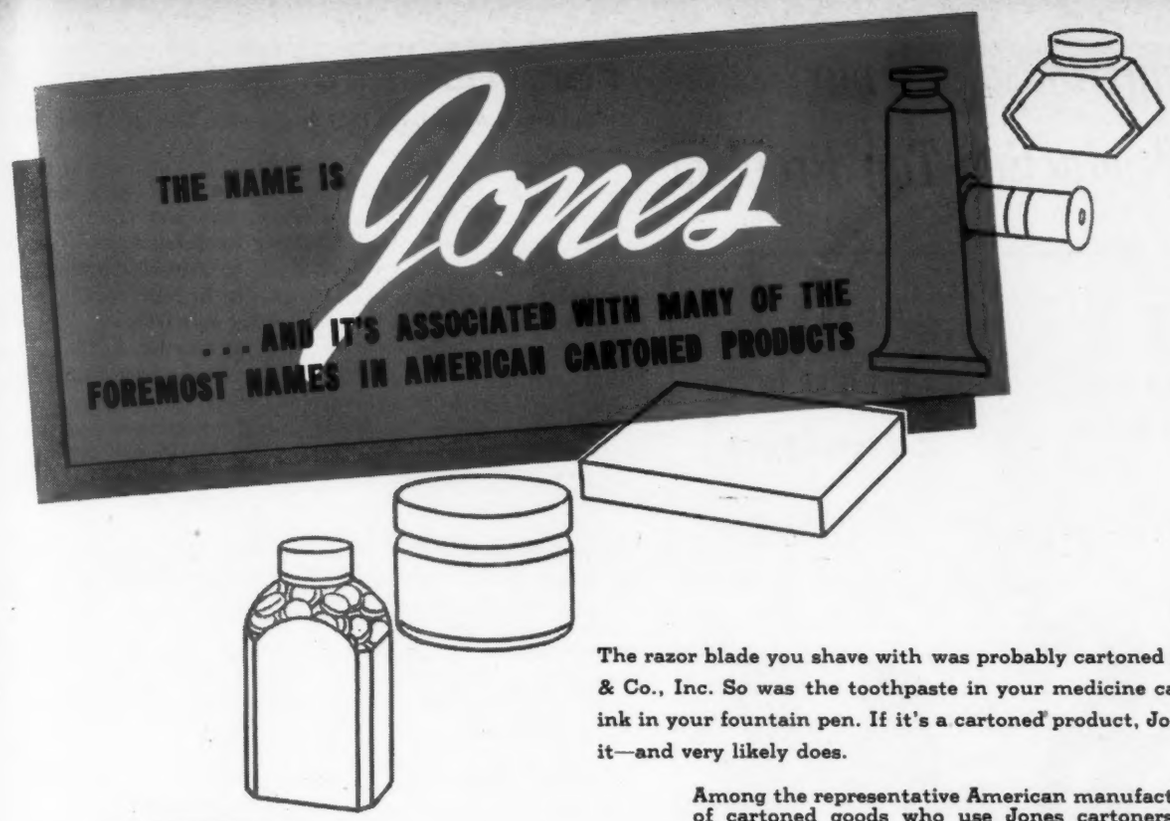
Allied Asphalt & Mineral Corp. just recently celebrated its 20th Anniversary.

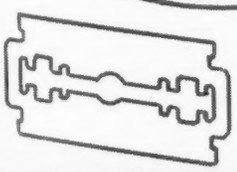
The National Process Co., Inc., recently received the **Navy Commendation Award** for Printers and Lithographers.

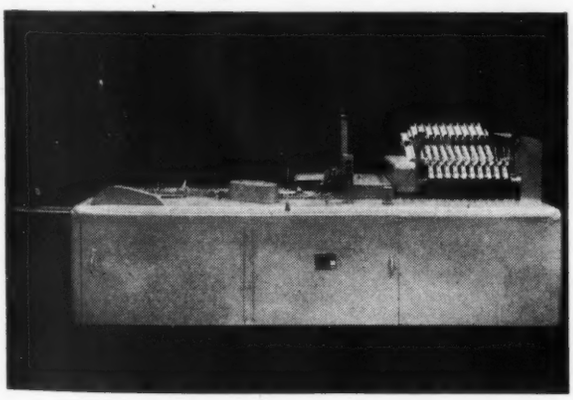
Nathan D. Isen, president of **Paramount Paper Products Co., Inc.,** Philadelphia, died on July 26.

Michael S. Huffman, formerly vice-president and director of **Continental Can Co.,** died on July 18, at the age of 62.

The last All-America Package Competition, conducted by MODERN PACKAGING, *attracted 25,000 entries in 1942. This annual competition, suspended "for the duration," will be resumed just as soon as conditions permit—bigger and better than ever.*







The razor blade you shave with was probably cartoned by R. A. Jones & Co., Inc. So was the toothpaste in your medicine cabinet and the ink in your fountain pen. If it's a cartoned product, Jones can carton it—and very likely does.

Among the representative American manufacturers of cartoned goods who use Jones cartoners are:

Lever Brothers Company
Gillette Safety Razor Co.
Bristol-Myers Co.
Procter & Gamble Co.
National Biscuit Co.
Pepsodent Company
Eastman Kodak Company
Lehn & Fink, Inc.
Parke, Davis & Co.
E. C. DeWitt & Company
Mentholatum Company
E. R. Squibb & Sons
Stanco, Incorporated
Upjohn Company
Menley & James, Ltd.
Barbasol Company
H. C. Glover Laboratories
Brillo Mfg. Co.
Consolidated Razor Blade Co.
Iodent Chemical Company
Mennen Company
Rit Products Company
Vick Chemical Company
Miles Laboratories, Inc.
Franklin Baker Division
Griffin Mfg. Company
P. Lorillard Company
Ex-Lax Mfg. Company
Colgate-Palmolive-Peet Co.
Chesebrough Mfg. Company
C. B. Fleet Company
Corega Chemical Company
Kilgore Mfg. Company
Campana Corporation
B. Manischewitz Company
Scholl Mfg. Company
L. E. Waterman Company
American Safety Razor Corp.
Kolynos Company
W. H. Marvin Company
Conrad Razor Blade Co.
Norwich Pharmacal Co.
Musterole Company
Seeck & Kade, Inc.
Walter Baker Company
Frederick Stearns & Co.
J. B. Williams Company
Kimberly Clarp Corp.
O'Cedar Corporation
Dr. D. Jayne & Son
Petrolagar Laboratories, Inc
R. T. French Company
Newskin Corporation
Carter's Ink Company
West Disinfecting Company
Charles E. Hires Company
McCormick & Company
Pataganset Finishing Co.
Parker Pen Company
A. Schilling & Company
Manhattan Soap Co.

● **Such a clientele cannot be the result of chance. It was built on the better performance that Jones cartoners give. If you are interested in the cartoner that has been ordered and re-ordered by so many outstanding producers of cartoned products, write to R. A. Jones & Co., Inc. for further information today.**

R. A. JONES & COMPANY, INC.

P. O. Box 485 CINCINNATI, OHIO

Two Ways to Solve Your Production Tag Problem

You are probably *thinking* about those work-flow problems that will hit you now that peace has come. Whether you plan to resume the manufacture of a prewar product solely, or add new lines, you know you want your new factory operations to be systematized from start to finish.

That's where Dennison comes in. A properly designed tag or label as an integral part of your system can do a lot to banish worries of raw materials control, production routing and scheduling, inspection, payroll data tabulation or shipping records. So even though you're still in the blueprint stage, put your problems up to

Dennison

PAPER-PRODUCTS FOR MORE THAN A CENTURY

We'll be glad to help you develop now the special production tags or labels or product marking devices you may need. If you'd like to plan today in preparation for tomorrow, write Dennison, 227 Ford Ave., Framingham, Mass.

TAGS • LABELS • SEALS • SET-UP BOXES • MARKING SYSTEMS • PAPER SPECIALTIES

For your information

(*Continued from page 158*) St., London, S.W. 1. Price 5s. net post free.

Ernest S. Bradford, Ph.D., of the department of business administration, City College, New York, has just completed the **"Survey and Directory of Marketing Research Agencies in the United States."** The new revised edition contains the names and addresses of marketing research agencies in New York, Chicago and 12 other cities with a population of over 500,000. In addition, it also includes such pertinent information as the special services which each is prepared to offer (such as general research or research dealing with specific industries), the date of organization, names of principal officers and the number of employees. Manufacturers planning market research will find $3.00 well spent for this booklet. Address Bureau of Business Research, City College School of Business, 17 Lexington Ave., N. Y. 10.

The **Reyburn Manufacturing Co., Inc.,** 385 Fifth Ave., New York 16, recently published its new **Fall and Christmas** display materials catalog.

A new booklet, **"Mack Molded Excellence,"** published by **Mack Molding Co., Inc.,** Wayne, New Jersey, illustrates the scope of molded plastic application and briefly describes the factors underlying the wide acceptance of plastics.

Some indication of the postwar export business which may be enjoyed by American manufacturers can be gained from the intense interest in a wide variety of products shown in letters reaching MODERN PACKAGING'S offices from all parts of the world. A recent one from the **Société Commerciale France Afrique,** Algeria, reads in part as follows: "We should want to represent different sociétés liable to report papers, cardboard, packing machines, closing materials, corrugated fibreboard boxes, solid fibreboard boxes, folding "stock" boxes, etc. . . ."

A survey issued in the second quarter of 1945 and made public recently by **R. J. Dearborn,** chairman of the patents committee of the **National Assn. of Mfgrs.,** shows that patent ownership is widely diffused throughout the country. Every state in the union was represented in the 6,253 U. S. patents issued between April 3 and June 26. States receiving most patents were scattered from coast to coast. On a per capita basis the highest ranking were Delaware, New Jersey, Connecticut, Michigan, Ill.

Approximately 85% of all wine consumed in this country is sold by the package through 60,881 outlets including beverage package stores, food stores and drug stores. This is according to a recent survey prepared for the **Wine Advisory Board** by the **Wine Institute.** In a breakdown of the sale of wine by package, 19,217 beverage package stores are estimated to distribute 42.38% of the total wine volume sold. Food stores account for 14.91%; state, county and municipally-owned stores for 9.05%; drug stores for 8.52%; and others 2.07%.

Monsanto Chemical Co. and many of its leading scientists have been closely identified with the development of the atomic bomb since the inception of the project, contributing principally to research, process development, design of plant and subsequent production of some of the material.

Every honorably discharged veteran who has had previous packaging experience may insert, free of charge, a "position wanted" ad in the Classified Advertising Section of MODERN PACKAGING. *Address the Classified Advertising Dept.,* MODERN PACKAGING, *122 E. 42nd St., New York 17.*

BUSINESS WEEK
Utility metal containers.....Cups for safety's sake
Fibre drums for powdered eggs.....And cans that do not break
ALL ARE MADE BY CONTINENTAL CAN COMPANY
Take another look at the Triple-C on the can at the right. Right now, of course, most Continental products are going to our fighting men and Allies.
But soon you'll be seeing a lot of this Continental trademark—on paper cups and containers, on plastic products, crown caps, pails and fibre drums, as well as cans.
And wherever you see it, you can be sure that the Triple-C stands for quality. So keep your eye peeled for the Continental trademark—you'll be finding it on more and more products for industry and your home.
★ ★ SALVAGE EVERY TIN CAN ★ ★
Products and Divisions of Continen
100 East 42nd St., New York 1
CONTINENTAL PRODUCTS: Metal C
Fibre Drums · Paper Containers · P
Plastic Products · Crown Caps and C
ucts · Machinery and Equipment.
OPERATING DIVISIONS: The Containe
Van Wert, Ohio · Keystone Drum Com
Pittsburgh, Pa. · Boothby Fibre Can Divi
Roxbury, Mass. · Mono Containers, New
N. J. — Plastics Division, Cambridge, Ob
Bond Crown & Cork Co., Wilmington, D
Cameron Can Machinery Co., Chicago, Ill.
FOREIGN SUBSIDIARIES: Continental Can Com
pany of Canada, Limited, Sun Life Building,
Montreal, Canada · Sociedad Industrial de Cuba
S. A., Havana, Cuba.
KEEP YOUR EYE ON CONTINENTAL — FOR PACKAGING AND PLASTIC PRODUCT
Tune in "REPORT TO THE NATION," every week over CBS coast-to-coast network.

PRODUCT VARIETY and service are the keynotes of Continental's policy, as illustrated in this advertising. Continental's ever-increasing facilities and wide resources sustain an organization that is always prepared to give your requirements quick, expert attention. Keep your eye on Continental, and on the Continental trademark, too! The Triple-C stands for *one* company with *one* policy—to give you only the very best in quality and service.

E PACKAGING *Experience*

TO MEET GLOBAL SHIPPING NEEDS!

Wherever our armies march—wherever lend-lease operates—there the seeds of desire are planted for America's goods and America's way of life.

What does this mean to you? . . . That you must be prepared for global demand for your products—that your packages and package-handling must be geared to meet rigid requirements and specifications of world-wide shipment, distribution, and sale.

More than a quarter century of proven packaging experience in the plants of America's foremost producers is yours when you specify packaging machinery engineered, designed and built by PACKOMATIC. Typical PACKOMATIC equipment includes:

PACKOMATIC AUTOMATIC TELESCOPING VOLUMETRIC FILLERS handle semi- and free-flowing products.

PACKOMATIC COMBINED TOP AND BOTTOM CARTON SEALERS with AUTOMATIC CARTON FEEDERS AND VOLUMETRIC FILLERS, seal both top and bottom flaps automatically, operate at speeds up to 60 to 75 cartons per minute.

AUTOMATIC NET WEIGHT SCALE for round metal and paper cans, glass jars and rectangular containers.

PACKOMATIC CASE IMPRINTERS that print both ends of the case simultaneously up to 20 per minute.

AUTOMATIC TUBE CUTTERS with elevator-hopper, designed to speed production from 70 to 100 percent.

NEW AND STREAMLINED MODEL "D" PACKOMATIC CASE SEALERS that seal both case tops and bottoms on one machine—or tops or bottoms only, if desired.

PACKOMATIC AUTOMATIC WEIGHERS for flour and similar products.

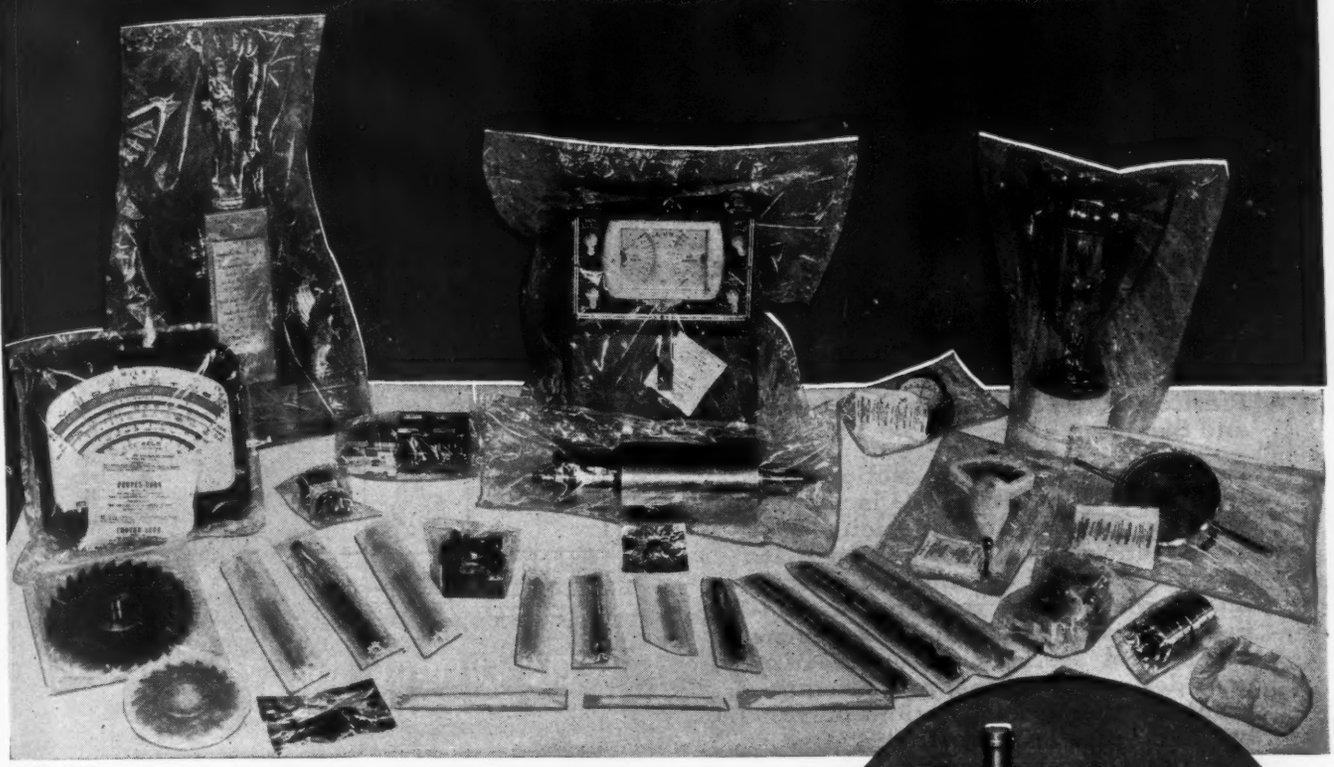
Builders of packaging equipment to meet every packaging situation, J. L. Ferguson Company gives you: (1) seasoned packaging advice and counsel, (2) experienced package design and engineering, (3) practical equipment building and installation.

For better package handling tomorrow . . . Consult your classified telephone directory for nearest PACKOMATIC office today . . . No obligation to purchase.

EXPERIENCE
FACILITIES
PACKOMATIC
PACKAGING MACHINERY
J.L. FERGUSON CO. JOLIET, ILL.
RESOURCEFULNESS
DETERMINATION

NEW YORK
CHICAGO - CLEVELAND - DENVER - LOS ANGELES - BOSTON
SAN FRANCISCO - SEATTLE - PHILADELPHIA - BALTIMORE

Here's what it does!



The Sav-Way Heat Sealer Seals a Wide Range of Plastic Films and Foils

The Sav-Way Heat Sealing Machine, developed to meet the critical requirements of wartime packaging, is destined to make history in the protective packaging field.

The Sav-Way principle, which produces an air-tight, moisture-proof welded closure, is adaptable to a wide range of plastic films and foils, and to an almost endless variety of packaging methods. The Sav-Way machine has been thoroughly proven in line production. It is readily adaptable to your own requirements.

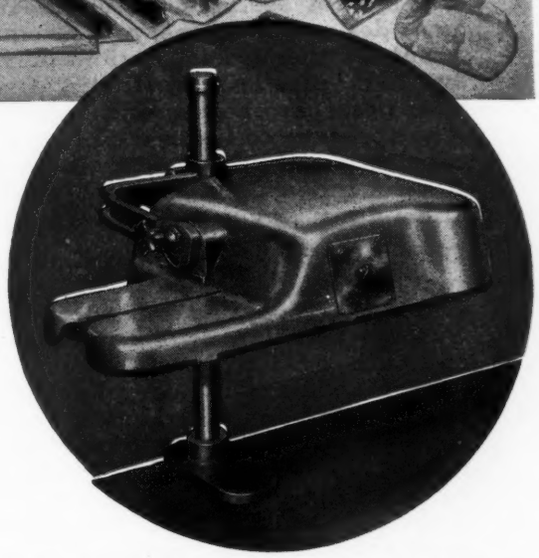
For technical consultation write, wire, or phone. We shall be glad to send a sales-engineer at your convenience.

DISTRIBUTOR TERRITORIES OPEN

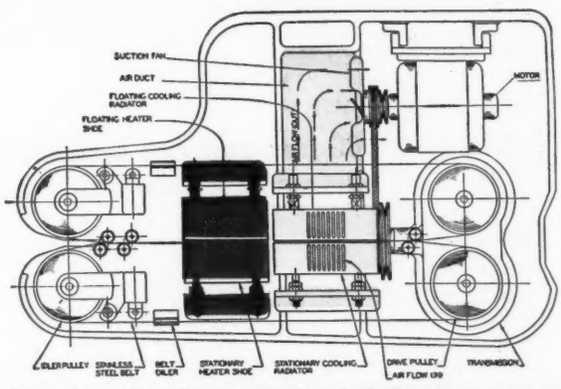
Sav-Way

SAV-WAY INDUSTRIES

BOX 117, HARPER STATION, DETROIT 13, MICHIGAN



The Sav-Way sealing mechanism is contained in this streamlined head which is adjustable to practically any position.



Plan view of sealing mechanism including temperature, pressure, and time control. Solid blue indicates heater; light blue the cooling mechanism.

1945
PLASTICS CATALOG

The Annual Encyclopedia of Plastics

A FEW COPIES ARE STILL AVAILABLE!

1178 pages—9 exclusive Charts—The complete, up-to-date Directories of Plastics Raw Materials, Machinery and Services.

Divided into 11 indexed sections, the 1945 PLASTICS CATALOG is the last word on plastics information. This annual encyclopedia contains articles on every type of commercial plastic, on all methods of molding, extruding, fabricating and finishing. There are special sections on engineering and design, machinery and equipment. Other special sections on rubber-like plastics, synthetic fibers, coatings, laminates and plywood. The appendix contains a bibliography of plastic publications, a glossary, a subject index through which you can track down any desired information.

Directories cover sources of supply for materials and chemicals, equipment, machinery, specialized services, educational institutions offering plastics courses, motion picture films on plastics. There are complete directories of personnel and equipment of material manufacturers, laminators, custom molders, extruders and fabricators. There are two important indexes of molders' and fabricators' marks and of trade names.

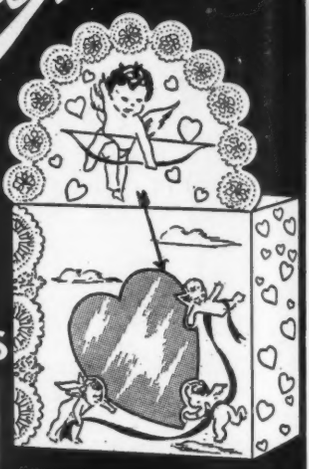
Only a few copies of this huge library-sized book are left. Order now—once these are gone, there will be no more available until the 1946 edition is published.

PRICE—$6.00 per copy, $7.00 per copy Foreign & Canadian

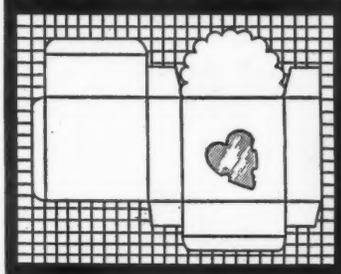
★

PLASTICS CATALOGUE CORP.
122 EAST 42nd STREET NEW YORK 17, N. Y.

Designed to SELL on SIGHT



CELLOPHANE WINDOW BOXES



SKETCHES and SAMPLES SUBMITTED

ACME FOLDING BOX CO., INC. ESTD 1914
141 E. 25th St., New York 10, N. Y.
Telephone MUrray Hill 4-7520

Since 1885
WE'VE MADE STICKUM THAT STUCK

When "Toots" went on her first walking spree and got messed up with the Tanglefoot fly paper, it was a job to remove it without detaching what was later to be her crowning glory. Gad, how it stuck!

With even greater tenacity Tanglefoot Gummed Kraft Sealing Tape sticks right to the finish. It's a superlatively strong product protector — a definitely superior tape — made by those who for more than 60 years have been specialists in applying adhesives to paper. Your dealer can supply you.

Tanglefoot GUMMED KRAFT SEALING TAPE

THE TANGLEFOOT CO., 405 Straight St., Grand Rapids 4, Mich.

PERMANENT

Surface Decorations On Every Type Of Package!

New Process Allows Integral Color Decoration of Plastics, Metal, Glass, Wood and other Surfaces

Creative's package decoration is proved permanent in actual use by the leading names in American packaging. Scratch-proof, rub-proof, water and alcohol-proof decorations, trade-marks and designs on dials, bottles, plastic containers, etc. No limitation on colors or design. Send for samples and prices.

Creative

PRINTMAKERS GROUP

14 West 17th Street — NEW YORK 11 · CH 3-6800

Surface Decorators for the Packaging Field

We know a man who lives in a cave. He never saw a bottle. (That's why he has nothing to say.) We can't blame him. He doesn't NEED a bottle. He's a cave man, you see.

Today the cave man is extinct. Men and businesses NEED bottles. There's a shortage of bottles and containers that's not kind to many industries and fields. A good idea would be to contact the Glass Container & Cap Outlet Company. Ten to one you'll be glad to learn of its large quantities (and varieties) of bottles, containers, and caps of all shapes and sizes. And of course, immediate shipments right on the heels of your order!

CONTACT US TODAY

P. S. — we buy containers and caps too. Get some hard cash for your useless accumulations.

glass container & cap outlet co.

876 Broadway
New York 3, N. Y.

what's so marvelous in a Pyramid?

Various measurements of the Pyramids amazingly reveal that the builders knew the measurements of the earth's diameter... as well as other astonishing facts

"The Better the Product the More Important the Package"

Or in

INTRIGUING SET-UP BOXES
UNUSUAL MERCHANDISE COUNTER DISPLAYS
SPECIALIZED PACKAGING
TRANSPARENT PACKAGING
CREATIVE FOLDING CARTONS

Answer: ... the thought, the planning, the design that goes into them

ACME PAPER BOX COMPANY

STATE AT SIXTIETH STREET • CHICAGO 21, ILLINOIS

CREATORS • DESIGNERS • MANUFACTURERS

Good News!

The salesman who comes into your office with necktie askew, with rumpled suit and mussed hair isn't likely to make the sale. Your package is one of your most potent salesmen. You have spent money, lots of money perhaps, on designing it, "clothing" it, grooming it for its selling job. It is important that it gets to the point of contact safe and sound.

That's where the strong, tough, versatile Kraft boards made by Hummel-Ross come into the picture. From these are made those stout packages that get your products to their destination looking as fresh as when they left your plant.

But don't take our word for it! Ask your box manufacturer about Hummel-Ross. He knows.

HOPEWELL KRAFT

Originators • Creators

HUMMEL-ROSS FIBRE CORPORATION

Hopewell, Virginia, U. S. A.

this is a message for

PACKAGING ENGINEERS

If you're packing for overseas shipment, you need Dewalco 737, a truly waterproof cement. Millions of packages for all branches of the service have proved that Dewalco 737 gives a tight, waterproof bond that even days of immersion cannot loosen.

DEWALCO 737 OFFERS

1. Immediate availability—ready for shipment NOW in any quantity, from Cambridge, Chicago and Oakland.
2. Standards—meets and betters the Army-Navy specifications for waterproof glues, JAN-A-101.
3. Easy to use—easy application by hand or in high-speed automatic packaging machines.
4. Economy—gives a large coverage plus reasonable cost.
5. Versatility—seals all types of boards, including V-board, with a quick, positive grab.

DEWALCO 737 is reasonably priced . . . readily available.

IN 55 GALLON DRUMS

15¢ per pound F. O. B. Cambridge, Mass.
15-3/4¢ per pound F. O. B. Chicago, Ill.
17¢ per pound F. O. B. Oakland, Calif.

DEWALCO 737 CAN DO *YOUR* JOB, LARGE OR SMALL

ARMY E NAVY

DEWEY AND ALMY CHEMICAL COMPANY

PACKAGING DIVISION

CAMBRIDGE 40, MASSACHUSETTS

★

Avoid Moisture Damage in Over-Seas Packages

Simply put a few small bags of Jay Cee Silica Gel, like the ones above, inside your container . . . wrap or seal tightly . . . and ship over-seas without fear of damage from "in-the-package" moisture. Jay Cee Silica Gel is an ideal drying agent . . . has amazing power to absorb atmospheric moisture. Thus the air inside of containers is kept absolutely dry and delicate metal parts are protected from rust and corrosion.

Jay Cee Silica Gel is also used in packages of foods, fabrics, chemicals, and other products. Moreover, it has wide application in the air conditioning, refrigeration, and chemical industries. Jay Cee Silica Gel is clear white; passes a rigid section test; meets exacting Government specifications; is strictly a quality product.

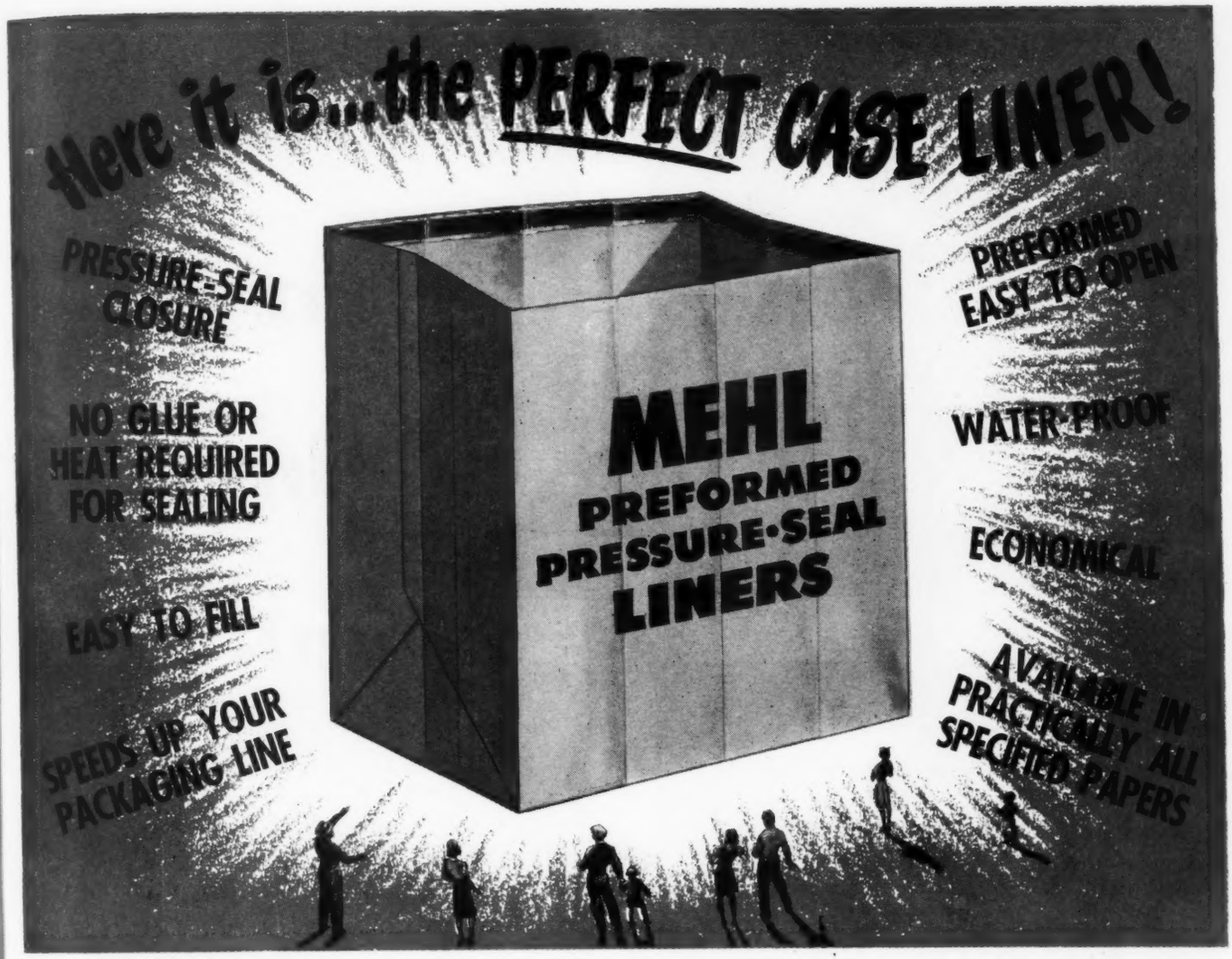
JOBBERS WANTED — There are excellent opportunities for jobbers to build profitable business on Jay Cee Silica Gel in a few territories. Write for details.

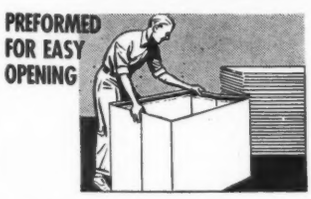
JOLIET CHEMICALS, LTD., INDUSTRY AVENUE, JOLIET, ILLINOIS

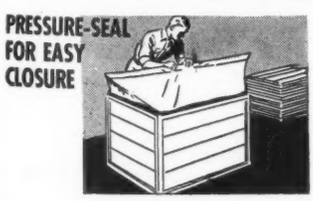
JAY CEE

SILICA GEL

A superior dehydrant







In the development of this new low-cost preformed pressure-seal liner, Mehl has combined the best features of the popular Mehl Pressure-Seal and V-type bags. To the V-type preformed, easy opening case liner, have been added the advantage of the film-protected pressure-seal strip enabling quick . . . safe . . . easy closure.

★ **NO MANDREL** *required to shape the bag*

★ **NO HEAT SEALING EQUIPMENT** *needed*

★ **NO MESSY ADHESIVES**

WRITE FOR SAMPLES AND PRICES ON YOUR PACKAGING NEEDS!

A DIVISION OF MEHL BAGS SYDNEY-THOMAS CORP.

MEHL MANUFACTURING COMPANY

Division of Sydney-Thomas Corp.

2351 FERGUSON ROAD, CINCINNATI 5, OHIO

277 BROADWAY, NEW YORK 7, N. Y.

CONVERTERS OF PROTECTIVE PAPERS • CELLOPHANE • LAMINATED FOILS • and other PAPERS and FILMS

That buying look!

You've seen it happen—a calculating glint in a customer's eye almost magically transformed to *that buying look!* Invariably a smart package holds the answer. Beautiful plastic containers *attract* attention. They visually *display* the product. They *clinch* the sale by adding a tone of distinction and quality. Look over Ethocel Sheeting and Styron—two leading Dow plastics that may hold *your* answer to better packaging.

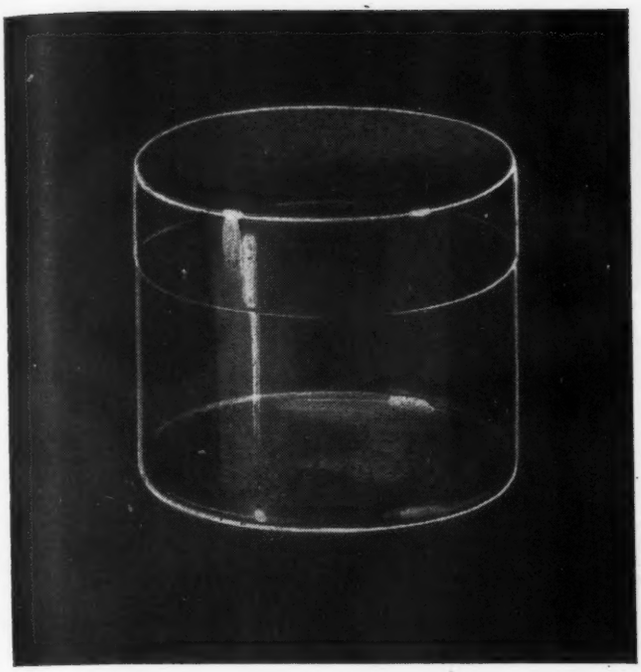
THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

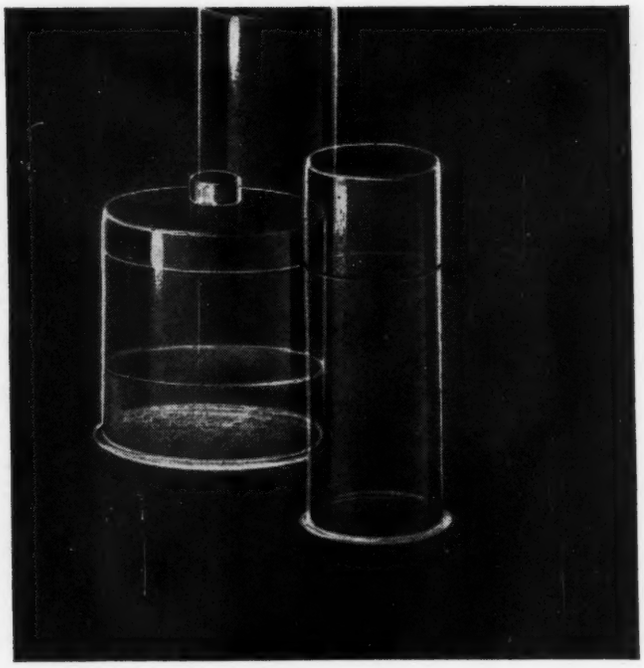
New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

Ethocel Sheeting

PRESENT AND POTENTIAL USES: Containers of all types, sizes, and shapes for jewelry, cosmetics, and other products. Also used for displays, advertising novelties, greeting cards, envelopes, labels, decalcomanias, records, ice cube trays, lighting fixture covers, lamp shades, and similar products.

PROPERTIES: Combines toughness with flexibility: tensile strength 10,000 lbs. per sq. in.; elongation, 30%; bursting strength (Mullen), 48; folding endurance (lkg; M.I.T.), 4000. Retains these characteristics and transparency over long periods despite handling. Resistant to alkalies and grease. Withstands heat to 220° F. continuous; to 275° F. intermittent. Resists cold. Easily fabricated by drawing, folding and scoring. Can be beaded, printed and joined by adhesives.





STYRON

PRESENT AND POTENTIAL USES: Cosmetic and pharmaceutical boxes and containers of all types: funnels, bottles, closures, food handling equipment. Also used for jewelry, advertising items, refrigerator parts, pens, pencils, chemical apparatus, lenses, decorative objects, trim and other products.

PROPERTIES: Beautiful, clear, translucent or opaque; resistant to acids and alkalies; stable at low temperatures; broad color range; low specific gravity providing more moldings per pound; low water absorption, good dimensional stability.

DOW

PLASTICS

FOR BETTER PACKAGING:

SARAN FILM • ETHOCEL SHEETING • STRIPCOAT • STYRON

50%

More Production with

CECO

Adjustable

CARTON SEALERS

Model A 3901-12

CECO

Adjustable

CARTON SEALER

Martinson's Coffee is one of the many well-known quality products protected in cartoons sealed with Ceco Adjustable Glue Sealing Machines.

When container restrictions necessitated the adoption of the Martinson Victory Package, Ceco Carton Sealers solved the problem of producing tightly sealed, pilfer-proof, eye-appealing cartons at low cost. In Mr. Martinson's own words,

"We are pleased to report that our production has increased fifty percent since we installed two of your Ceco Adjustable Carton Glue Sealing Machines."

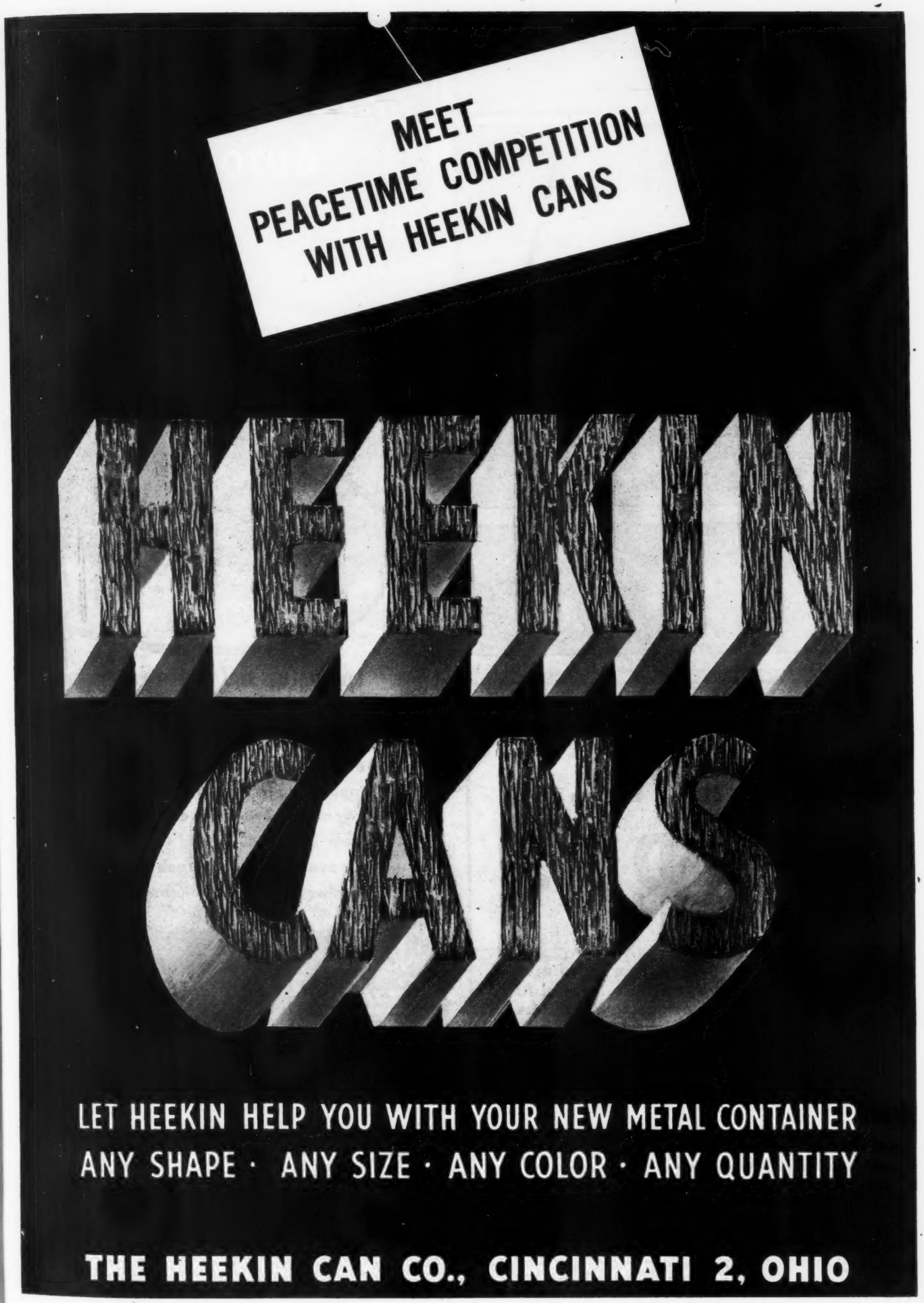
A Ceco Carton Sealer is easily adjustable without tools by an inexperienced operator for a wide variety of carton sizes. It seals and squares-up both ends simultaneously at adjustable speeds up to 120 per minute. This simple, portable machine will quickly repay its low initial cost. Write for details.

CONTAINER EQUIPMENT CORPORATION

Packaging Machinery Specialists

212 Riverside Ave., Newark 4, N. J.

CHICAGO • TORONTO • BALTIMORE • ST. LOUIS
SAN FRANCISCO • ROCHESTER


MEET
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For Product Protection

AUTOMATIC MOISTENING CONTROL

RECOMMENDED BY—

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many new and revolutionary ideas in packaging will be anticipated. With the point-of-sale usually being the proving ground for "buy" appeal, more thought will be given to color, design, and engineering to increase the sales power of the product. If paper is a necessary requirement, Fitchburg Finish quality is worth looking into for good results. After war-time restrictions are lifted, we will be ready to furnish the paper specialties for which we are noted.

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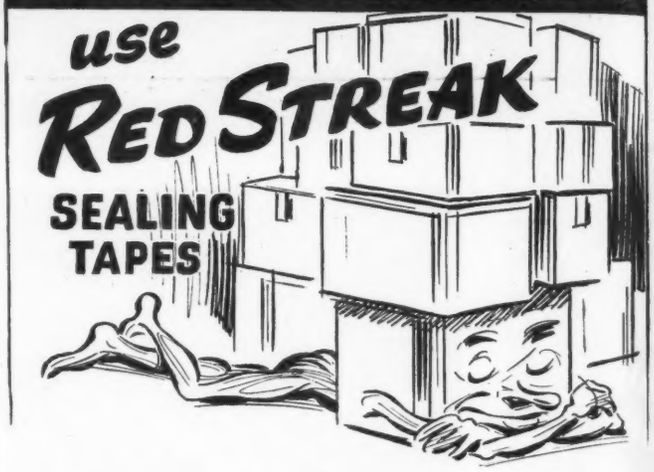

In "Red Streak" Sealing Tapes you find a combination of good paper, good glue and plenty of it—use "Red Streak" and end your sealing problems.

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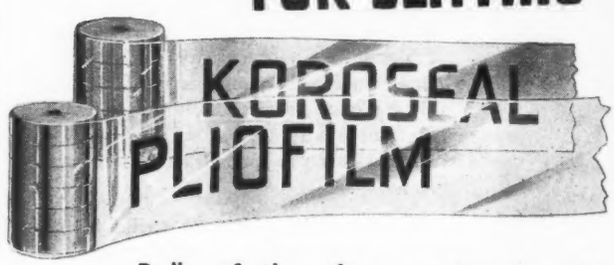
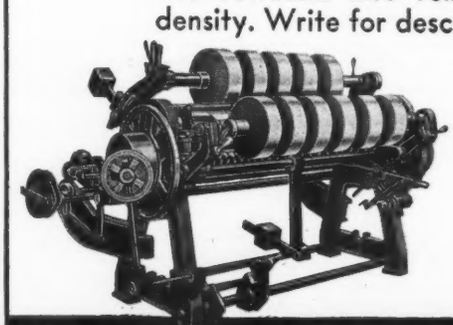


Rolls of the above materials, also rolls of similar materials are accurately slit on CAMACHINE 24-7 and rewound into rolls of uniform density. Write for descriptive folder.



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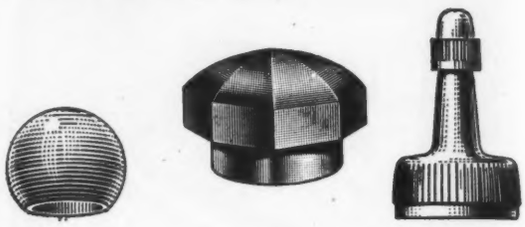

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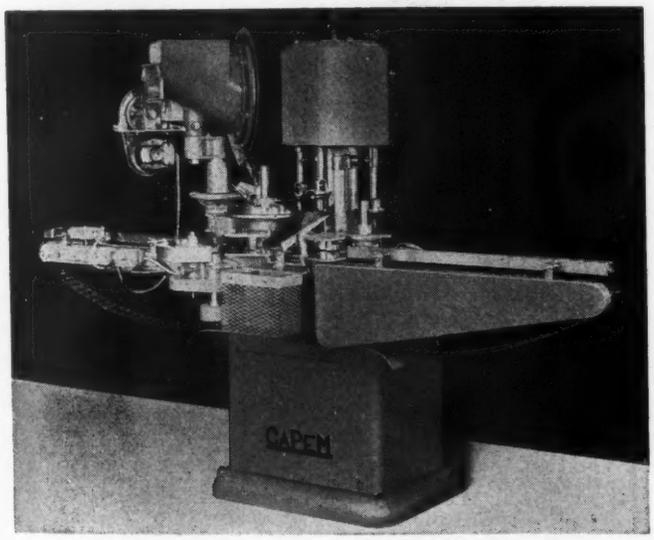

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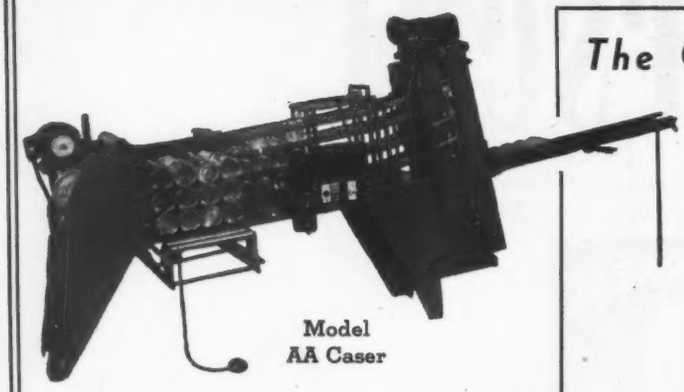

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AA Caser

If your product is packed in cylindrical cans, you can materially speed up casing or boxing operations by the installation of a CRCO-New Way Caser which will insert cans in the cartons. Several models are available to cover all capacity needs from those of the small manufacturer to those of the producer who must pack huge quantities of containers daily.

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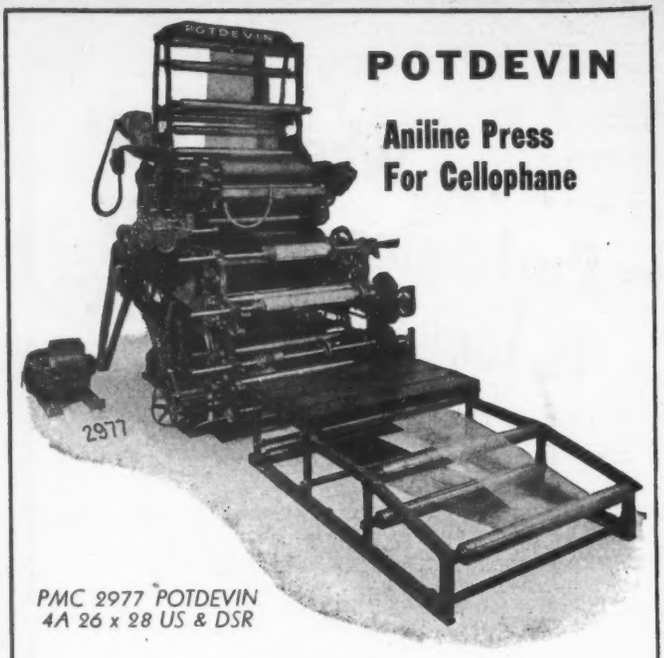

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Aniline Press For Cellophane

PMC 2977 POTDEVIN 4A 26 x 28 US & DSR

(Model 304)

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FUNCTIONAL PACKAGES for *War and Post War*

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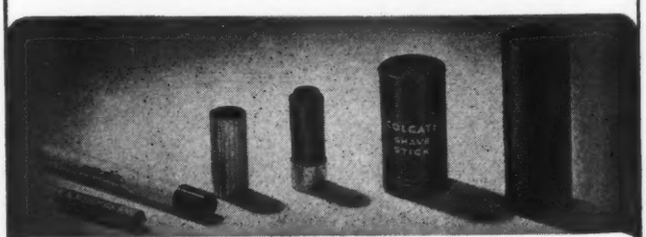

attractive • weight-saving

Our long experience in the fiber tube industry has given us the "Know-how" to interpret post-war containers. Consult us on your packaging problems.

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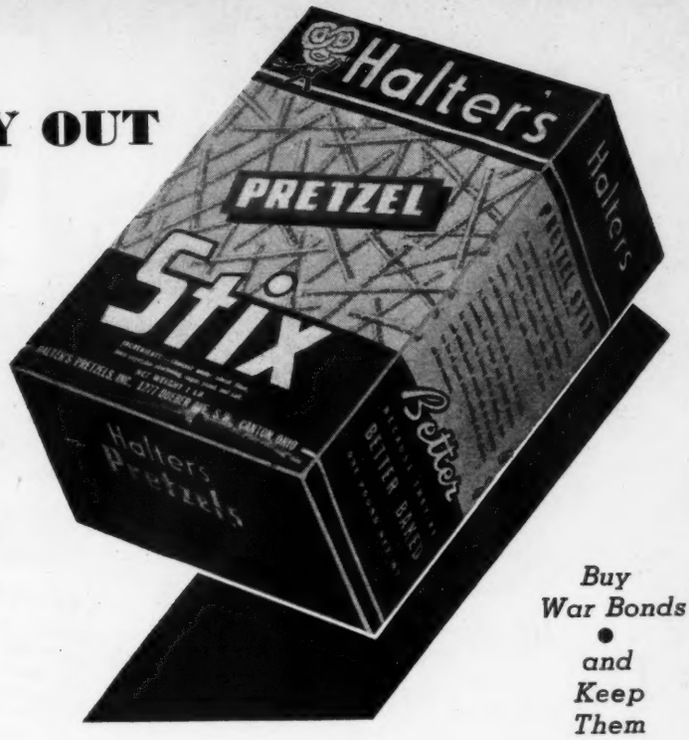

your package is a Silent Salesman for your products. Neat Appearance, trim creases, and tightly pressed seals invite the customer's attention and stimulate the urge to purchase. When you trust your overwraps to the Hayssen Wrapping Machine, you are sure to be pleased with the resulting appearance. Since each package is an exact duplicate of the others, you are certain that the display value will be very high. Write the factory today and obtain the complete Hayssen story. It pays to wrap the Hayssen way.

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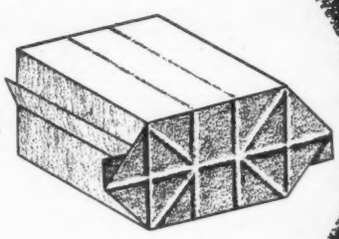

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● Our expanded facilities for the production of *OrdnanceApproved* water proof case liners permit our supplying L2 and M2 liners to a few additional manufacturers. The McKay-Davis designed patented tab liners are unique in simplicity, tailoring and high quality. Huge production, automatic, quality controlled, assures economical price—immediate delivery. Consult our packaging engineers about your problems.

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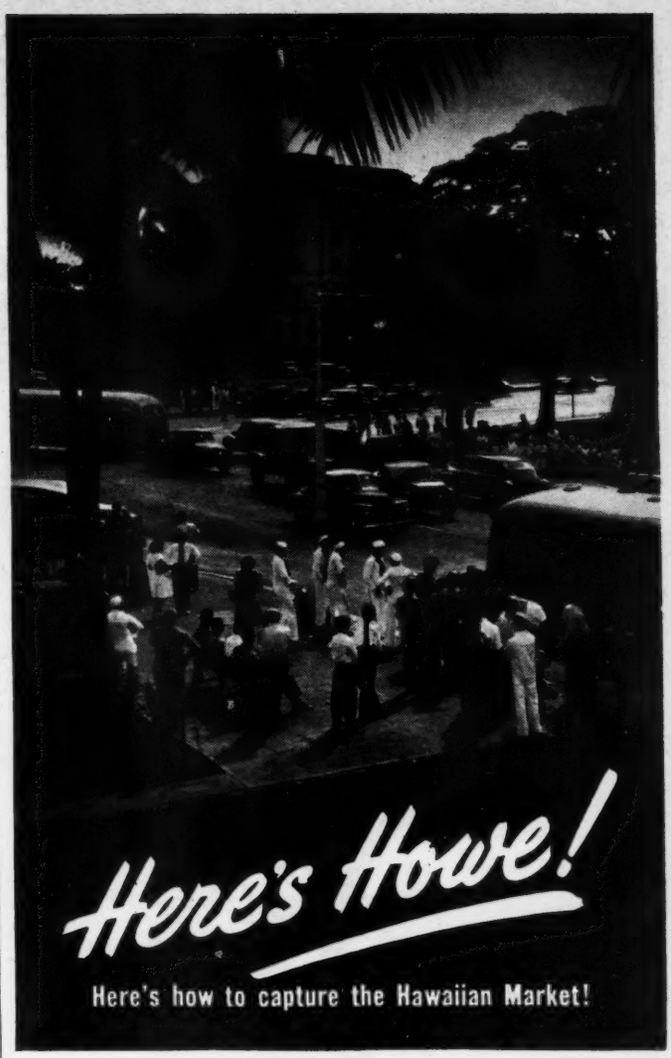

Here's Howe!

Here's how to capture the Hawaiian Market!

You can approach Hawaii as confidently as you would any other American community, whose buying power is high. During 1943, per capita retail sales reached $304, exceeding 19 of the states.

You'll find a market that is accustomed to absorbing everything—luxuries as well as necessities—that go to make up the American standard of living. Everything which is suitable that is, for a climate so delightfully equable that it varies less than ten degrees between winter and summer.

For that very reason, you'll find some unusually favorable factors. Hawaii has an agricultural economy, yet practically all its wage earners have year-round payrolls. Aided by the climate, this means virtually no changes in buying seasons. Trade is stable as well as strong the whole year round.

And here's how to enter the Hawaii market...R. A. Howe & Co. You will have a vigorous, well established, well financed distributor in a position to give your product the drive it needs in a lively market.

Postwar we can offer you a sound take-off to the Orient. We plan to establish a branch at Manila as the center of a marketing operation throughout the Orient. There's a good deal worth hearing about present opportunities in Hawaii—and future opportunities both here and in the Far East. Write us for the whole story.

R.A.HOWE & CO. WHOLESALERS AND DISTRIBUTORS Hawaii

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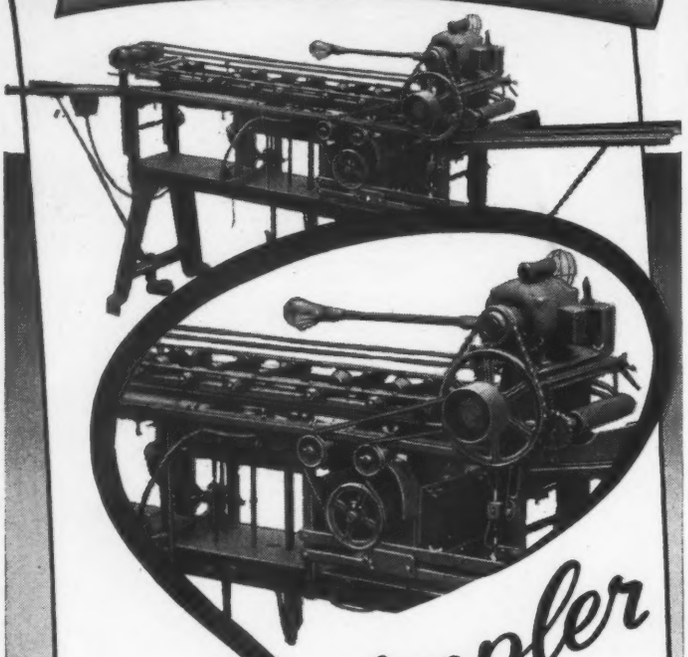
FMC — KYLER LABELERS



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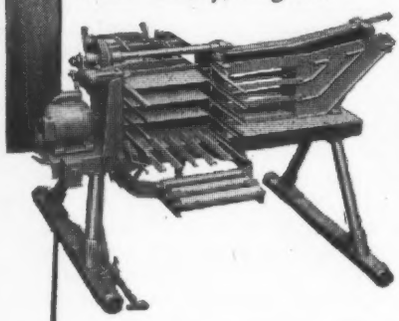
The extreme simplicity of FMC-Kyler Labelers results from the absence of complicated mechanisms. This quality labeler does more and better work with about one-third fewer parts. One operator quickly and easily makes all adjustments for change in sizes of containers.

And also has these other unusual features! *Handles a wider range of work. *Lap Paste System. NO DRIP. Automatic adjustment for any width label. *Large Label Box holds two full packs of labels. *Automatic Control. If discharge chute is full, labeler stops. *Lower Operating Costs. Uses less paste and gum. *Lower Maintenance Costs. Fewer repair parts needed, and they cost less. *Speedy Size Change. No tools needed. All change points marked. *Seaming Pad easily removed, self-adjusting. *Adjustments provided for every possible need. *Sturdy, long life.



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BRAND NEW FMC CATALOG *contains full details of these new additions to FMC's complete line of food processing equipment.*

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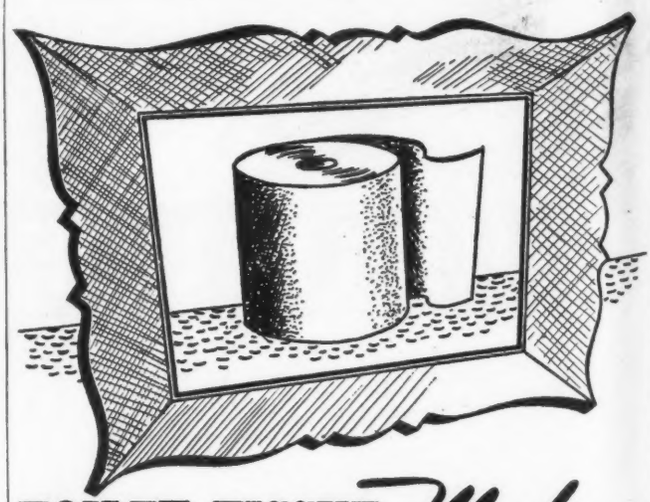
DIE CUTTING • EMBOSSING
STRAIGHT CUTTING • PERFORATING • PUNCHING



TOILET TISSUE *Makers*

IMPROVED toilet winders, interfolders, core cutters and embossers. Printing presses and sheeters for label printing and wrappers for wrapping. • High production machines, low cost operation and superior product. • Specifications and prices upon application —

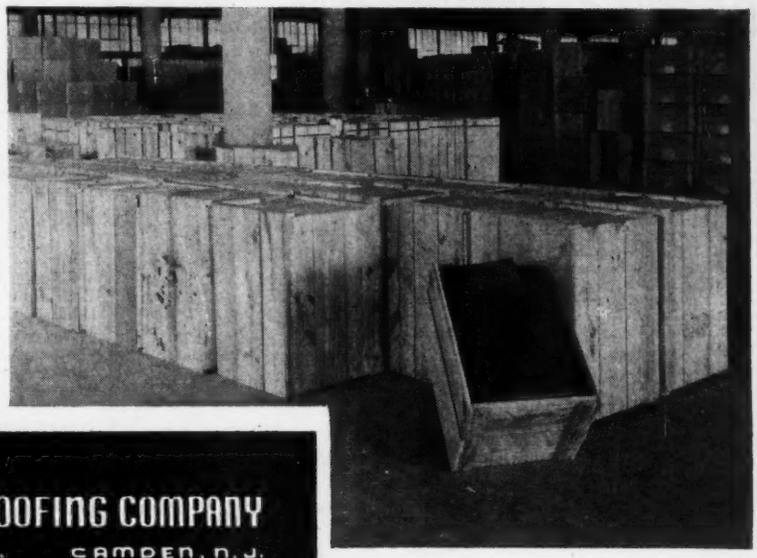
HUDSON-SHARP
MACHINE CO • GREEN BAY • WIS

NATCO SPECIAL *Protective* PAPERS

(Government Standard)

FOR SPECIAL PURPOSES

#4—Box Lining—strong, flexible, water-proof papers are designed especially for maximum protection inside boxes. Such papers protect all types of merchandise from food to machinery.



Our special sheets are
- Laminated Papers
- Reinforced Papers
- Ream Wrappers
- Saturated Papers

FOR
1. Crate Packing
2. Box Lining
3. Box Covering
4. Small Parts Packing
5. Ream Wrapping
6. Roll Wrapping

National WATERPROOFING COMPANY

FRONT AND BECKETT STS. CAMDEN, N.J.

DUPLEX · SATURATED · REINFORCED · WAXED & OILED PAPERS

BUY UNITED STATES WAR BONDS & STAMPS

Advertising ALPHABETS

FOR PASTE-UP!

Reproductions of

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HAND LETTERS

Figures *Ornaments* *Borders*

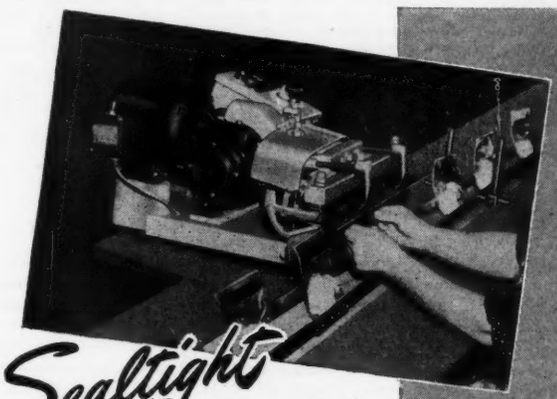
THOUSANDS OF STYLES and SIZES

For Original Copy Make-up of all Printed Matter

WRITE FOR CATALOGUE on your Letterhead

Advertising ALPHABETS, INC.

567 SIXTH AVE. NEW YORK 11, N.Y.



Sealtight THE ORIGINAL BAG HEAT SEALING MACHINE...

Offers: (1) Automatic Folding Mechanism. (2) Hydraulic Type Thermostatic Heat Control. (3) Date Coding Attachment. (4) Hole Punching Attachment. (5) Special Model for Large Bulky Bags. (6) Will Use Any Type of Heat Sealing Bag Material. (7) Precise, Sturdy Construction. (8) 12 Years of Experience Exclusively in the Production of Crimp Heat Sealing Machines.

MODEL 12 F (FOOT POWER) AVAILABLE FOR IMMEDIATE DELIVERY

NEW "PACER" MOTOR DRIVEN MODEL

WRITE FOR CATALOG SHOWING FULL LINE INCLUDING MOTOR DRIVEN MODELS

HEAT SEAL-IT COMPANY

4316 LANCASTER AVE., W. PHILADELPHIA 4, PA.

All classified advertisements payable in advance of publication. Rates: $5.00 up to sixty words; enclosed in border, $10.00 per inch.

Classified Advertisements

Publisher reserves the right to accept, reject or censor a classified copy.

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Rebuilt and Guaranteed for Immediate Delivery
Complete, Ready to Go!

3 Pneumatic, 30 Minute Automatic Scales, each	$1500.00
1 Pneumatic Semi-Automatic Bottom Sealer	700.00
1 Pneumatic Top Sealer Glue Roll for above	200.00
1 Light Weight Carton Compression Unit, Adjustable	200.00
1 King Sales 6 Spout Syphon Filler, Copper Tank	300.00
2 Adjustable Knapp Labellers—#2 Cans, each	400.00
1 Triangle SPA Volumetric Filler—Foot Control	575.00
1 Triangle P3 Duplex Volumetric Filler	700.00
1 Triangle SPA-SO Fully Automatic Filler	1450.00
1 Triangle P2 Volumetric Filler	325.00
8 Triangle P1 Volumetric Fillers, each	375.00
4 Triangle R Portable Carton Gluers, each	135.00
1 Triangle S Carton Compression Unit	550.00
1 Heat Seal-It Sealtight Bar Sealer	375.00
1 National Auger Packer, Type M, Model G	1250.00
1 Stokes Model 15 Auger Packer	750.00
1 Packaging Sales Screw Elevator 8'	400.00
1 Edtbauer Duplex Type SCA	200.00
1 Day 200# Dry Mixer	250.00
1 Horizontal Batch Mixer 1000#	600.00
1 Burton Rotary Mixer with Elevator 1000#	800.00
2 Friction Clutch Feed Packers, S. Howes, each	250.00
1 Morgan 4 Track Nailing Machine	400.00

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Write—Wire—Phone—Immediate Delivery
Please Mention MODERN PACKAGING

Richard G. Lippmann
Packaging Engineers
Manufacturers Sales Agents

PACKAGING SALES COMPANY
Colman Building Seattle Elliott 7157

ENGLISH MANUFACTURERS desire offers of modern automatic Milk Bottle Disc manufacturing machines. Also modern equipment for the manufacture of Paper Drinking Straws. Write: Box 329, Modern Packaging.

WANTED MIDWEST—Packaging Designer by large manufacturer of set up and folding cartons. Exceptional opportunity for a live wire with ability to develop and create new ideas in the folding or set up packaging field. Must have some technical experience and post war vision. Good salary and future. Give full particulars. State previous experience, education, salary, etc. Address Box 330, Modern Packaging.

DESIGNING DRAFTSMEN

MECHANICAL ENGINEER

Young, Graduate, must have 2 or 3 years' practical shop experience.

ARTISTS

Submit Samples.

ROTARY AND GRAVURE PRESSMEN

Immediate openings with firm in central Ohio engaged in printed bag making and general conversion and fabrication. Men most versatile will be given first consideration. Write letter telling something about self, pertaining to age, married or single, experience and salary expected. Those qualifying will be given personal interview. Must comply with all WMC regulations. Box 327, Modern Packaging.

CHEMIST with organizing ability and initiative for responsible position in quality control work with Midwest manufacturer of packaging materials. Background in resins desirable. Box 328, Modern Packaging.

WANTED TO BUY—Cellophane Bag and Envelope Machines, also Aniline Printing Presses. Reply Box 331, Modern Packaging.

WILL PURCHASE a Modern Clipper Bag Making Machine or any other Cellophane or Foil Bag Making equipment. Also interested in a Cigar tube manufacturing machine; and will also purchase large quantities of Cellophane. Box 332, Modern Packaging.

SALESMAN OR BROKER—For advertising displays (cardboard, wood, etc.). Exclusive East, Mid-West and West Coast territories. Imperative you have substantial top flight clientele of manufacturers of nationally advertised products. This organization outstanding in creative designing and construction. In position to render exceptional service on volume. State current yearly volume, whom representing, age, family status, availability. L. A. Sauer, Display Corp., 357 E. Erie St., Milwaukee, Wis.

SALES MANAGER—Established New England concern desires aggressive, experienced, technically trained man to coordinate sales of resin and lacquer coatings to paper, textile and leather industries. Good salary, bonus plan and opportunity for future. Replies held in full confidence. Box 333, Modern Packaging.

ARTIST seeks connection with meta litho firm. Now or Post War. Will go anywhere in U. S. A.—12 years' experience in design and executing finished art for metal cans, drums, displays, collapsible tubes, etc. Exceptional good letterer. Write Box 334, Modern Packaging.

WANTED: INSTALLATION ENGINEERS

IF you like variety in your work:
IF you like to travel:
IF you have had experience in packaging machinery:

We have an interesting, permanent opportunity for you.

The job requires some engineering training; mechanical ability; some previous experience either in the handling of package wrapping or package sealing machines; and a reasonable amount of ingenuity in solving packaging and mechanical problems.

Good starting salary—traveling allowances—and an opportunity to share in sales—offered by an established manufacturer of packaging machinery in the Middle West.

Write giving full particulars, previous experience, availability, and present employer. All answers treated in confidence. Box 335, Modern Packaging.

PACKAGING SALES ORGANIZATION interested in representing manufacturers of packaging lines in the Chicago market. G. R. Bent & Company, 444 West Grand Ave., Chicago.

HELP WANTED MALE—Paper Box Factory in Central California wants experienced gluing machine operator. Good pay, steady work, ideal working conditions. Box 336, Modern Packaging.

PACKAGE DESIGNER wanted. Must be top-notch. Precision speed, and experience important, plus ability to meet clients and handle accounts. Excellent and permanent future, high salary. Write or visit our office nearest you. J. GORDON LIPPINCOTT AND CO., 500 Fifth Avenue, New York City—230 North Michigan Avenue, Chicago.

LAMINATING—We combine varied types of stock; roll to roll work only, jumbo size. Also web printing, coating, varnishing.

FULLER DISPLAYS, Inc.
Paper Converting Division
515 W. 56th St., New York 19, N. Y.

LEADING BELGIAN manufacturer of folding cartons wants information on and propositions for new processes, machinery, materials, patents. Write Industrial Research Laboratory, 421 Memphis St., Philadelphia 25, Pa.

AMBITIOUS MAN, 40, college background, experienced all phases fine and coarse paper also twine, will sell or accept responsible position with manufacturer, sales agency or distributor anywhere in U. S. A. Box 337, Modern Packaging.

ARTIST who wants to make a place in the packaging field. Can work up clean comprehensives from roughs, is not bored by mechanical detail and construction work. Work for and be trained by one of the top notch designers in the packaging field. Write: Martin Ullman, 113 West 57 Street, New York, New York. State experience and salary desired.

SALESMAN—EXECUTIVE, well acquainted in New York Metropolitan liquid can packing trade, wants responsible position; bondable, sound references. For further information please write Box 338, Modern Packaging.

AVAILABLE—EXECUTIVE PACKAGING ENGINEER—For sales or head of packaging division; 25 years' experience research, design, sales development, promotion. For past three years head of packaging division of one of the most important Government Bureaus. Box 339, Modern Packaging.

WANTED: Man with background of thermo-plastics and plastics fabrication to take charge of new plastics container department of long established paperboard container company located in Brooklyn, N. Y. Knowledge of machinery and methods essential. Excellent opportunity to advance with the department. Write your qualifications fully, together with age and salary requirements. Box 340, Modern Packaging.

As its contribution to orderly re-employment MODERN PACKAGING will print free of charge in its "Positions Wanted" classification, one ad, not to exceed 20 words, for each honorably discharged veteran of the armed forces of the United Nations who has had previous packaging experience.

G. P. BARRIER WRAP

(Grade A, Type II)

NOW AVAILABLE!

Production has been increased to make this possible. Previously, equipment could handle direct military requirements only.

G. P. BARRIER WRAP exceeds the most recent specifications for Grade A, Type II paper (JAN-P-121 and AN-P-12b). A rugged body stock supports a continuous heat-sealable film. Resistance to turpentine penetration more than double the highest standard — real insurance against any run-off or leakage of anti-corrosive compounds.

For packaging "To Go Around the World", Grade A paper is used next to machined or polished surfaces. Packaging Methods I, Ia, and II (ASF Manual 406) all have places for a wax-free Grade A, Type II material.

G. P. BARRIER WRAP *offers more in reliability! From manufacture of raw pulp to finished product, all operations are conducted under one roof with complete, continuous control over each step.*

Real personal help and samples of G. P. BARRIER WRAP are yours for the asking. Minimum order, 2,500 square yards in sheets or rolls. Shipments made direct from mill to producers of war materiel on priorities and contract numbers only. For prices and delivery, write or phone at our expense, outlining sizes and quantities needed.

New grades are in the laboratory stage. Can we develop one especially for you?

GOULD FOR PAPER

REINHOLD-GOULD, Inc.

535 FIFTH AVENUE, NEW YORK 17, N. Y.

Follow The Flock

who are dramatizing post-war products with Sefton's "Profit Packaging!"

Wise manufacturers are planning now to highlight their post-war products with Sefton's "Profit Packaging!" They know that they can depend upon Sefton to give them attractive packages with a utility value! Take their "string opening" can, for instance. It's especially designed with a *full* opening to facilitate packing your product. And this advantage is only one feature* of this popular Sefton can!

***OTHER FEATURES**

It Opens Easily
It Can be Closed Again
It factory-seals your product
It's Tamper-proof!

SEFTON

FIBRE CAN COMPANY

ST. LOUIS ····· NEW ORLEANS

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MODERN PACKAGING
BRESKIN PUBLISHING COMPANY
122 East 42nd St. New York 17, N. Y.

LUSTRON

woos and wins women

Women, especially, are very likely to stop . . . look . . . and buy . . . when they see a product dressed in Lustron, Monsanto's polystyrene . . . But so are men.

There's something about the clear, true colors . . . the gem-like, lustrous surface . . . and the clean, smart designs you can get with Lustron that quickly says . . . *"here's quality!"*

Yet Lustron is often the most economical plastic you can choose for a molded container or decorative closure:

1. It costs less per pound than any other thermoplastic.
2. It can be molded by the fastest, most economical methods.
3. Its light weight means more units per pound . . . lower shipping costs.

Even in those special cases where eye appeal and economy are secondary, Lustron's physical qualities often make it the first choice among plastics:

1. It does not affect the merchandise . . . is odorless, tasteless, contains no volatile plasticizer.
2. It is not affected by alkalis, alcohols and almost all acids.
3. It has exceptional dimensional stability so that closures of Lustron fit . . . and keep their fit.

You can select any color you wish in Lustron —from sparkling transparent through delicate pastels to rich opaques. You can get faithful reproductions of amazingly intricate designs. And you can get a look and feel of quality in your packages . . . at mass production costs . . . in mass production quantities.

For complete information and technical advice, write: MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield 2, Mass.

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SERVING INDUSTRY . . . WHICH SERVES MANKIND

VUE-PAK TRANSPARENT PACKAGING MATERIAL

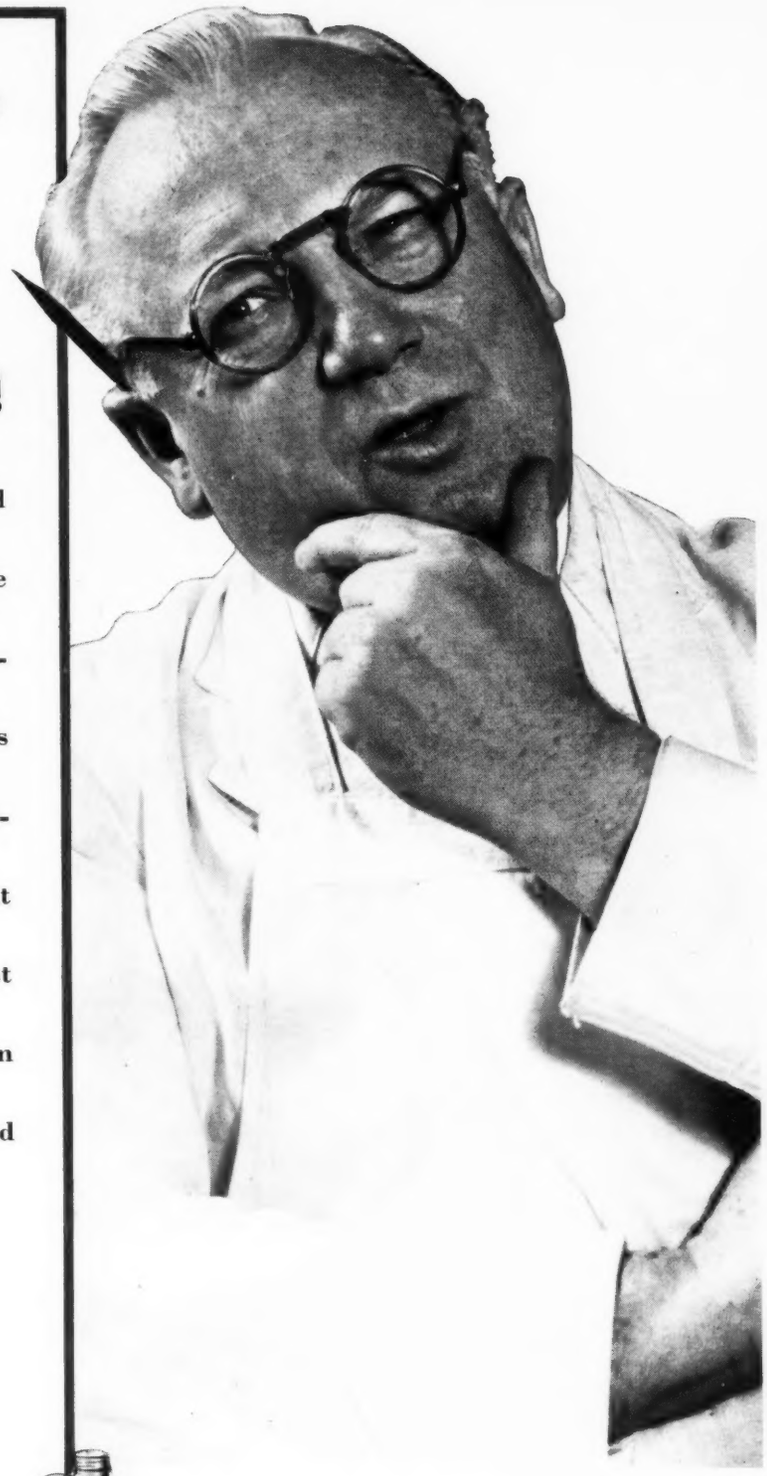
The broad and versatile family of Monsanto Plastics includes: Lustron* polystyrenes • Cerex* heat resistant thermoplastics • Vinyl acetals • Nitron* cellulose nitrates • Fibestos* cellulose acetates Thalid* for impression molding • Resinox* phenolics • Resimene* melamines • Forms in which they are supplied include: Sheets Rods • Tubes • Molding Compounds • Industrial Resins • Coating Compounds • Vuepak* rigid, transparent packaging materials.

*Reg. U. S. Pat. Off.

His Reasoned Opinion

Glass

GETS IT SOLD!



● With a constantly increasing demand for glass packed foods dealers realize the sales value of prominent display. Customers are drawn by color and obvious quality of the contents of glass containers. They reach for and buy what they SEE is good. You get your product to dealers safely and economically in BALL Glass Containers, Mr. Packer, and

—YOU GET IT SOLD.

B A L L
BROTHERS COMPANY
General Offices
MUNCIE, INDIANA, U. S. A.

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THE PRODUC
WITH A FUTU

There's a bright future in store for
Peacetime products, for improved techniques
and materials developed during wartime
assure greater protection in packing,
shipping and merchandising —
provide new opportunities for smart
display, for more attractive
and colorful design. If you are
planning a new package to
give your product
every advantage in these
fast-moving days, yet
have no place in your
postwar plans for guesswork,
we invite you to submit
your problem today.
Our design, development
and testing facilities
are immediately available.

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CONVERTERS OF CELLOPHANE, PLIOFILM, CELLULOSE ACETATE, SARAN, FOILS, PAPERS, GLASSINE, LACQUER COATING: VINYLS